Croonian Lectures
ON
POINTS CONNECTED WITH DIABETES.

Delivered at the Royal College of Physicians,

BY F. W. PAVY, M.D., F.R.S.

LECTURE II.—PART III.

IMPRESSED with the importance of being able to express in precise and reliable terms the amount of sugar corresponding with what in my original experiments I described as a trace in relation to the blood and the liver, I have given my attention to the application of the copper test gravimetrically instead of volumetrically. It is now a common practice with chemists in sugar determinations to employ the former method of procedure in preference to the latter. Greater precision and certainty belong to a result obtained by the balance than to one derived from watching the gradual disappearance of colour, and mentally deciding when the required point is just, and only just, obtained, as in the ordinary volumetric process. Moreover, in the case of minute quantities of sugar, as when the blood and the liver in a state belonging to life are dealt with, the suboxide is thrown down in so finely divided a form as to remain diffused through the liquid, and obscure the determination. Indeed, under these circumstances, the difficulty is such as to deprive the estimation of the desired authority as an exact expression of quantity. Hence the reason that actual quantitative results have not hitherto figured more frequently in the discussion of the physiological relations of sugar.

In adopting a gravimetric process, the copper may be weighed in different states. The suboxide may be collected and weighed as such, or converted into the oxide and the weighing of this undertaken. From the difficulty, however, that exists in obtaining the metallic oxide in a pure and uniform state, some want of precision belongs to the results thus derived. Looking for something more susceptible of delicate exactness, the plan suggested itself of dissolving the precipitated suboxide and throwing the copper down in the metallic form by galvanic action upon a platinum surface, in the same manner as is now extensively done in the assaying of copper ores. Several difficulties at first presented themselves in the execution of this process, and at one time I almost thought it would have to be given up; but one by one they have been overcome, and now I feel that, with the requisite care in manipulation, it supplies a means of furnishing reliable information. The close agreement noticeable in the results yielded by counterpart analyses gives strong testimony in favour of the process being susceptible of great precision.

The object to be attained is to determine the amount of copper which corresponds with the reducing effect of the sugar existing in the product analysed. We must first prepare a suitable liquid for the application of the copper test solution. The precipitated suboxide has then to be collected in a separate form; it is next dissolved, and the copper thrown down by galvanic action upon a cylinder of platinum foil. The final part of the operation consists in ascertaining the weight of the copper thus thrown down. Such are the principal features of the process, but I consider it requisite to furnish an account of the manner in which the several steps of it are carried out. I am anxious not unnecessarily to enter into detail. I feel, however, that these considerations, occupying the fundamental position they do in relation to the physiological conclusions upon which our views concerning the nature of diabetes are based, should not be cursorily passed over. Unless you are satisfied that the chemical method of procedure is entitled to credit, I could not expect you to accept the conclusions derived therefrom.

Let us suppose, then, that we have a specimen of blood to submit to examination for the quantitative determination of sugar, the following is the manner in which, according to the plan proposed, the operation is conducted.

Forty grammes of sulphate of soda in small crystals are weighed out in a beaker of about 200 cc. capacity. About 20 cc. of the blood intended for analysis are then poured upon the crystals, and the beaker and its contents again carefully weighed. In this way the precise weight of the blood taken is ascertained. The blood and crystals are well stirred together with a glass rod, and about 30 cc. of a hot concentrated solution of sulphate of soda added. The beaker is placed over a flame guarded with wire gauze, and the contents heated until a thoroughly-formed coagulum is seen to be suspended in a clear colourless liquid, to attain which actual boiling for a short time is required. The liquid has now to be separated from the coagulum, and the latter washed, to remove all the sugar. This is done by first pouring off the liquid through a piece of muslin resting in a funnel into another beaker of rather larger capacity. Some of the hot concentrated solution of sulphate of soda is then poured on the coagulum, well stirred up with it, and the whole thrown on the piece of muslin. By squeezing, the liquid is expressed, and to secure that no sugar is left behind, the coagulum is returned to the beaker, and the process of washing and squeezing repeated.

The liquid thus obtained may be fairly regarded as containing all the sugar that existed in the blood. From the coarse kind of filtration and squeezing employed, it is slightly turbid, and requires to be thoroughly boiled to prepare it for filtration through ordinary filter-paper. A perfectly clear liquid runs through, and to complete this part of the operation the beaker that has been used and the filter-paper are washed with some of the concentrated solution of sulphate of soda before referred to.

The next step is boiling with the copper test solution. The liquid is again placed over a flame, and brought to a state of ebullition. A sufficient quantity of the copper solution to leave some in excess is now poured in, and, from the time of recommencement of boiling, brisk ebullition is allowed to continue for a period of one minute. This suffices for all the sugar to be oxidised, and, accordingly, for all the action upon the copper solution to be completed. There is no risk during this time of spontaneous change occurring in the copper solution; but observation has shown that, should the boiling be continued for a lengthened period (by which I mean ten minutes or a quarter of an hour), the copper solution undergoes alteration, and no longer possesses the power of resisting spontaneous reduction. As regards the amount of copper solution to be used, although 10 cc. of the test as ordinarily made are found to suffice for 20 cc. of the blood of animals in a natural state, yet it is well to employ from 20 to 30 cc. to secure that it is thoroughly in excess. Where, from any circumstance, larger quantities of sugar exist in the blood, more in proportion of the test must, of course, be used.

The precipitated suboxide of copper has now to be separated from the excess of copper solution. Experience shows that filtration through filter-paper cannot be resorted to for the purpose. In the first place, the pores of the paper tend to become blocked up and filtration to be stopped; and in the next—and this is a fatal objection—the paper absorbs and so tenaciously holds some of the copper solution that it cannot be effectually washed out. A plug of asbestos in a filter-funnel may be used instead; but asbestos varies considerably, and it is not always easy to procure it in a state to answer well for free, and at the same time perfect, filtration. A material, however, which has somewhat recently

been introduced—viz., glass-wool—fully furnishes what is wanted. Properly packed in the neck of a funnel, it permits filtration to be effectively and easily performed. The filtrate should always be carefully examined, to see if the plug has been sufficiently tightly packed to keep the whole of the precipitate back. Should the crystallisation of the sulphate of soda in this or the preceding filtration interfere with the continuance of the operation, the funnel may be placed over a beaker holding some liquid kept in a state of ebullition, or heat may be applied in any other way.

The suboxide having been collected, and washing with distilled water performed, it is returned to the beaker in which the reduction was effected, to secure that none of the precipitate that may have been adhering to the sides of the vessel is lost. The plug is pushed with a glass rod from the neck of the funnel held in an inverted position over the beaker, and the funnel washed and its surface cleaned from all adhering precipitate. We have now the suboxide in a fit state to dissolve, and, until I resorted to the use of peroxide of hydrogen to effect its oxidation, a difficulty presented itself in this part of the operation, the precipitate requiring an amount of acid to dissolve it which interfered with the subsequent deposition of copper by galvanic action. After the addition of a few drops of peroxide of hydrogen, a very small quantity of nitric acid (a few drops only) is sufficient to lead to instantaneous solution, and, after boiling, to decompose the excess of peroxide of hydrogen, the contents of the beaker, consisting of filter-plug and dissolved precipitate, are poured into a funnel containing a loose plug of asbestos or glass-wool, to obtain the liquid in a separate form. The requisite washing with distilled water having been performed, there only remains the final stage of the process to be accomplished.

The liquid to be now dealt with contains the copper in the form of nitrate, which experiment has shown to be the most suitable for yielding a pure metallic deposit by galvanic action. For the purpose of collecting the deposit a cylinder of platinum foil soldered to a platinum wire, for hooking on to the negative pole of the battery, is employed. This is immersed in the liquid so as nearly to touch the bottom of the vessel, and inserted within it is a spiral coil of platinum wire, made to constitute the positive pole of the battery. In order to secure a good continuous connexion, the platinum spiral is closely bound to the copper conducting-wire of the battery, and the other pole is provided with a platinum hook for the suspension of the cylinder. This precaution has been found necessary from the ready manner in which copper exposed ends become oxidised, and rendered imperfect conductors by the oxygen escaping from the liquid underneath. It may also be mentioned that the platinum spiral, after several days' use, acquires a brown surface, and requires to be occasionally cleaned by immersion in hydrochloric acid. At the end of twenty-four hours' exposure to galvanic action the weight of the cylinder with the deposited copper is taken. The cylinder is lifted quickly out of the liquid, and instantly plunged, first into distilled water, and then into spirit, the latter being used to avoid the occurrence of oxidation of the copper in drying. After drying by suspension in a water-oven the process of weighing is performed, and it is hardly necessary to say that a delicate chemical balance is required for the purpose. The weight of the cylinder being known and subtracted gives the weight of the copper that has been thrown down. In the case of an analysis of blood containing an ordinary amount of sugar, and therefore yielding a limited amount of copper to be deposited, twenty-four hours have usually been found to suffice for the completion of the operation; but it is necessary there should be no uncertainty upon this point, and to secure this, the following course of procedure should be adopted. After the weighing has been effected, the deposited copper is dissolved off by immersion of the cylinder in nitric acid, and the cylinder then returned into the liquid to see if any fresh deposit occurs. If, after some hours, no copper tint is seen, the operation may be regarded as completed; but if more deposit has occurred, the immersion must be continued, and another weighing performed, and this repeated till the platinum surface remains untinted. We have here the most delicate test there is for the presence of copper, and if no appearance of deposit is perceptible it may be safely concluded that no appreciable amount of copper remains in the liquid.

The galvanic action requires to be steadily and continuously maintained, and a modification of Fuller's mercury-bichromate battery has been found to answer best for use. The arrangement that has been employed in my experiments consists of an outer cell provided with two carbon plates, and charged with bichromate of potash dissolved to saturation in dilute sulphuric acid. Into the inner porous cell a little mercury is poured, and it is then filled up with water. An amalgamated zinc rod is inserted, and dips down into the layer of mercury at the bottom. This battery, it is found, gives a steady current, and, used every day, will remain in good working order for at least a fortnight, all that is necessary being to pour out the liquid in the porous cell when it has become green from reduction of the diffused bichromate solution, and replace it with water. Attention is, of course, necessary to secure that the proper battery-power exists to effect the deposition of the copper, and when the current becomes weak, the zinc rod must be cleaned, and the bichromate of potash solution replenished.

When sugar is boiled with the copper solution the change occurring stands in the relation of one atom of the former to five atoms of cupric oxide. One atom of sugar is oxidised by, or reduces, five atoms of cupric oxide. This is the foundation of the action involved in the operation of the test, and the calculation of the amount of sugar present is made accordingly. Taking 63·4 as the atomic weight of copper, and 180 as that of glucose ($C_6H_{12}O_6$), 317 parts of copper will stand equivalent to 180 parts of glucose. Thus one part of copper corresponds to ·5678 of glucose, and in calculating the amount of sugar in the blood analysed, the weight of the copper deposited has only to be multiplied by ·5678 to give its equivalent in glucose. The quantity of sugar in the amount of blood taken for analysis being thus determined, the required information is supplied for expressing the proportion for 1000 parts.

Experience and careful consideration enable me to say that I feel that the process I have described may be confidently appealed to for giving precision to our knowledge regarding the relations of sugar in the animal system. It is true, time and delicate manipulation are required for obtaining the results, but these are matters which ought to be regarded as of no consideration in view of the object for which the process is proposed.

Lumleian Lectures
ON
INSANITY IN ITS LEGAL RELATIONS.

Delivered at the Royal College of Physicians,

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LECTURE III.—PART I.

I HAVE referred to that monopoly of observation of the characteristics of insanity which the physician enjoys, through the operation of the statutes, in asylums and hospitals for the insane, and in the care of certified lunatics, which enables him to explain the motives of insane criminal acts; for there are few insane persons who, if they were left entirely without guidance and control, would not be liable to commit some law-breach either of omission or of commission. Still there is a marked difference between the inmates of an ordinary hospital for the insane and those of Broadmoor, where persons who have committed crime and have been acquitted on the ground of insanity are detained during the Queen's pleasure. I can speak from observation and personal inquiry of the inmates of Broadmoor, for, besides former official visits, Dr. Orange has most kindly, on several recent occasions, permitted me to study the inmates of his wards with that care and patience which is so needful in an investigation of states of mind, and with the aid and guidance of his own full and accurate knowledge.

One remarkable characteristic of criminal insanity can scarcely fail to strike any earnest investigator at Broadmoor, which is that in the most unlikely instances he will discover a criminal motive. The absence of such motive is said to be one of the most trustworthy marks of the offender who

innocent on account of mental disease. But if this maxim were accepted, there are few of the inmates of Broadmoor who would not have merited punishment; and Dr. Orange fully confirms me in the statement that it is hazardous in the extreme to infer the absence of motive, and even of criminal motive, from the kind of histories of an offender and of his offence which are usually given for the guidance of Courts.

On reflection, we must perceive that in every act which is not unconscious or automatic there must be a motive of some kind or other, but that this motive of insane conduct should so commonly be criminal in its character seems to be opposed to the accepted views of writers on the subject. And yet it is not difficult to see how even a pure delusion becomes supplemented with such a motive. A man entertains the delusion that his wife has betrayed and dishonoured him, and he kills his children with the motive of inflicting misery and punishment upon their mother, whom he detests. Another entertains delusions of persecution, and he commits homicide, not to escape from persecution, but to inflict vengeance upon his enemy. Even in the most unlikely cases, the existence of evil motive constantly discovers itself on patient investigation. A man steeped in epilepsy, who had killed his wife in an access of epileptic fury, recently told me that he remembered all about it. He was enraged with his sister for leading a vicious life; she being at his door he wished to get at her to wreak his passion, but his wife intervening, he struck her instead and killed her. An epileptic youth was bargaining with his grandfather for the purchase of a pistol, which he took into the garden to try at a mark. On returning to the cottage he shot his grandfather, admitting subsequently that, as the old man sat over the fire, he offered such a tempting mark—"such a jolly cockshy" was the term he used—that he could not resist, and so a homicide was committed with just the motive which leads a street Arab to throw a stone at a lamp.

There is a woman at Broadmoor who cut the throat of her young infant. For some time she declared that she had no recollection whatever of the occurrence, but eventually she was led to narrate how the neighbour who was nursing her left her for a day alone a week after confinement, saying that she was well enough to attend to herself. She felt annoyed at having to warm her food, and therefore did not take sustenance enough. The result was that she could not properly suckle the infant, which became irritable and restless; and she thought that, as people cared so little about her, she did not care that the infant should live, and therefore she killed it. No doubt in these instances—and they might be added to to any extent—the motive was most inadequate and unreasonable, and that the offenders were irresponsible for their actions, but they are fair illustrations of the general fact that there is always a motive for every offence committed consciously, and that with rare exceptions that motive is some form of what the law calls malice. Of course many exceptions as to the character of the motive may be met with, and others may be imagined. For instance, that case which is reiterated by the lawyers of a lunatic in supposed self-defence killing a man who he thinks is about to kill him; or that other one of the man who, under the delusion that he was breaking a jar, killed a man.

I know not whether physics blind men to metaphysics, or the study of automatic and consensuous actions to the nature of those which are conscious; but certain it is that while medical men are given to speak with facility of action without motive, or of motiveless conduct, the lawyers, whose province it is to estimate the moral character of actions, from a contract to a homicide, are trained to an analysis of conduct of which motive is an indispensable element. The able lawyer I have already quoted explains that conscious action is compounded, first of motive, intention, or design; secondly, of that form of wishing which is called will; and, thirdly, of the appropriate bodily movements.

In the charge[1] to Dove's jury the following more simple distinction was made between the mental and the physical part of action:—"It is," said the judge, "the setting and keeping the mind in motion towards an object plainly conceived that constitutes the mental part of an act. If a man fills himself with a passionate intense longing for a forbidden object or result, he becomes, as it were, a machine in his own hands. Every act becomes irrevocable by the agent before it is consummated."

Here, again, is the tripartite arrangement—the conception of an object, the longing for its attainment, and its consummation; and a main difference between offenders is the different mental point at which an act is still revocable. In the thorough madman there is no such point, for he is a machine in his own hands from the commencement; the conception of the object, the longing for it, and the doing of it being the result, not of mental, but of material things which are not in his own hands. The conception and the longing combined are the motive; but as longing or wishing can only vary by being more or less strong, it is the conception of the object which gives the character to it. How rarely can the conception of an act of violence, whatever its origin, be amiable or altruistic compared with the infinite variety of circumstances in which it must be of an opposite complexion?

The primary cause of the character of motive lies in the formation of disposition, and with this judicial proceedings have no direct relation. But a lunatic's disposition is always in part, and sometimes entirely, the product of disease; and if this be so, if disposition, if conception of the object and that form of wishing which is called will, be all the consequence of material things which are not in the hands of the agent, it follows that the whole of that mental state to which, or to part of which, the term "motive" may be applied is not in his hands, and the agent is no more responsible for it than he is for the material things—to wit, the state of certain inflamed or degenerated portions of nerve-tissue, which is the cause of it all.

These considerations will, I trust, induce jurists to acknowledge that if a man has become an offender against the law, even with malice aforethought, not the product of his own evil nature, but that of deranged nutrition of nerve-tissue, and if moreover he be such an offender that no effort he can make and no threat of the law can withhold him from the course of conduct resulting therefrom, then neither will the spirit of justice be rightly directed in retaliating for his misdeeds, nor will the preventive aims of law be served by his exemplary punishment.

The fact is that we have long been dwelling in that kind of paradise which wise men try to avoid, under the erroneous supposition that insane people commonly commit criminal actions without criminal motives. But if this be wrong, as I maintain, we must seek for a new adjustment of our principles. We know too little of the correlation between pathology and conduct to occupy that standpoint which would be the best, but fortunately there is one attribute of conduct produced by disease which is sufficiently simple to be intelligible by men of plain common sense, sufficiently constant not to cheat us with false hopes of guidance, and directly applicable to the end in view, and this is the uncontrollable character of conduct resulting from disease of the brain. Surely it must be that this quality of conduct resulting from disease has always been at the root of the law, although even up to the present time it has never been expressed in the law; for, if this quality be abstracted, what reason would remain for excusing a man from punishment on account of ignorance or unreason, even if he be insane? If a madman could be made to control his conduct like other men, one can scarcely believe that any tenderness for his misfortune would be able to overrule the obvious expediency of compelling him to do so; while in his deprivation of self-control and his insubjection to imposed control we have a test of his madness and a practical reason for his irresponsibility.

But notwithstanding that it must be the duty of a court in all difficult cases to take into consideration the state of the whole mind of an insane offender, as it may have been changed by disease in the direction of loss of control, many cases occur in which the task is comparatively simple on account of the mind having been so profoundly affected in one of its main faculties that further inquiry may be needless. This consideration and also the fact that we can best arrive at a

[1] It would be more accurate to refer these words and others I have quoted in my second lecture to the judge's notes than to his charge. I have taken them from Sir Fitzjames Stephen's account of this *cause célèbre* in his General View of the Criminal Law, which, he says, "is taken from the notes of Baron Bramwell, who was so kind as to lend them to me for the purpose. I have followed throughout the very words." In the brief summary of the charge reported in *The Times*, it is stated that the judge "read to the jury the whole of the evidence, commenting upon it as he proceeded."

knowledge of the whole by examining and estimating the condition of what may be, or, at least, appear to be, parts or separate functions of the whole mental state, lead us into that sort of rough mental analysis which is observable in modes of thought, as they may be traced both in legal proceedings and in the common life of men. It therefore appears to me of the greatest practical importance that physicians conversant with insanity should attempt so to arrange their knowledge that they may be able to present it to courts in a form whereby it may be understood by the rules of common sense, and applied by men of little cultivation or instruction. And I think this purpose would be greatly aided if we were to attempt, I will not say a classification, but a methodical view of the diseased conditions of mind which lead to the commission of offences. The term "mental derangement" conveys the notion indeed which ought never to be lost sight of, that insanity places the several mental functions out of their proper proportion and correlation, and that a mind thus deranged may be quite incapable of sane action, although some of its functions may seem to be more or less normal.

The consideration of separate states of mind leading to insane offences may, I think, be usefully methodised into the consideration (1st) of offences the result of Unconsciousness caused by disease; (2nd) of offences the result of Ignorance caused by disease; (3rd) of offences the result of insane Hallucination and Delusion; and (4th) of offences the result of Passion caused by disease. It may be that, with the exception of unconsciousness, these several mental states are not met with alone or in unmixed forms, but as it is certain that in the great majority of concrete instances one or other of these several states of mind has a preponderating influence in the causation of illegal conduct, we shall, I think, better arrange our own knowledge, and be better able to make ourselves understood, if we adopt this concise arrangement, which may further be developed into that more elaborate grouping of the signs of insanity to which I have already referred.

Offences the result of unconsciousness have recently attracted great attention both in clinical teaching and in courts of law. They may be divided into those of somnolence and those of epilepsy. Of the former we have had no recent cases in our courts. One English and three foreign instances are collected by Casper, but no sufficient details have been given to enable us to form any opinion as to whether they were mere excuses for murder, or homicides committed under the hallucinations of dreaming.

The unconsciousness of the epileptic state, and the amount of consensuous muscular movement which may really be effected during such unconsciousness, is one of the most interesting physiological questions which has ever been raised by legal proceedings, and one of the most important legal questions upon which physiology has thrown light. I find it admitted in legal writings that an epileptic may, in a convulsion, give an hap-hazard fatal blow for which he is in no way responsible. He is neither a lunatic nor a criminal, but has killed a man by misadventure.

A step beyond this is illustrated by the case of a woman, Elizabeth Carr, whom I have seen and examined at Broadmoor, and whose instructive case has been supplied to me by Dr. Orange as follows:—One morning in the end of June, 1876, while dressing her infant, she got up with the view of getting some bread-and-butter for the other child, who had asked for it, and, having the infant in her arms, she approached a cupboard to get a knife to cut the bread. She appears at this stage to have been seized with a fit, during which she cut one of the infant's hands clean off at the wrist. Speaking unreservedly and without any appearance of evasion, she says she does not recollect anything about the infliction of the injury, and that when she first recovered consciousness she found neighbours and two policemen in her room, and the latter taking the hand, which she had wrapped up and was hugging, from her. She was fond of the child, and distinctly states that she was never possessed of any thought or desire about doing it harm. She was under outdoor hospital treatment for epilepsy, and had on two occasions fallen upon her side (the right) against the fire and received burns, scars of which still remain on the side and elbow. It would further appear, from her own statement, that her husband had been in the way of locking up the knives, &c., not absolutely out of her reach, but so that they might never be lying about the room. She gives as a reason for this that she had been found to have fits with sharp instruments in her hand; and recounts one occasion on which, while sitting at the table with her husband and cutting bread, she at the same time cut a small slice off her thumb, being at the time unconscious, and subsequently observed to be so by her husband, who was the first to notice the cut. She states, too, that she used occasionally, while in this unconscious state, to get about the room and even dress herself or make up her bed.

We can scarcely doubt that this poor woman destroyed her child (for the child died) by consensuous or sensori-motor movements over which she had no control, and for which, therefore, she was absolutely irresponsible. It was, in reality, a case of homicide by misadventure, and wherefore the jury found the woman not guilty on the ground of insanity, so that she has been relegated to Broadmoor, I cannot understand. I do not know any other case in which an offence has clearly been committed under parallel conditions, although no doubt this single case forcibly illustrates the defence made in some recent trials in which there has been much difference of opinion among medical men.

Dr. Hughlings Jackson has contributed a most able and instructive paper directly bearing upon this question to the fifth volume of the West Riding Asylum Reports, entitled "On Temporary Mental Disorders after Epileptic Paroxysms." Dr. Jackson's cases do not include any of law-breach, although, as he says, they have a direct bearing upon them, having "an important medico-legal interest." "It is convenient," he says, "to have one name for all kinds of doings after epileptic fits, from slight vagaries up to homicidal actions. They have one common character—they are automatic; they are done unconsciously, and the agent is irresponsible. Hence I use the term *mental automatism*. I say *mental*, as the doings are probably external signs of crude mental states—external signs of epileptic dreams."

Perhaps it may be hypercriticism to suggest that doings which are mental can scarcely be automatic, and that we are not unconscious of our dreams. In a certain sense all mental action may be said to be automatic, being the result of sensation and previous ideation; and in a more limited sense, we have the unconscious cerebration of Carpenter and the reflex mental action of Laycock; but it seems rather premature to admit these speculative opinions even into clininal teaching, and surely their influence ought not to be permitted to modify the plain meaning of terms used in legal inquiries. I cannot omit Dr. Jackson's psychological explanation, which is most ingenious and probable. "I believe," he says, "there is in such cases, during the paroxysm, an internal discharge, too slight to cause obvious external effects, but strong enough to put out of use for a time more or less of the highest nerve-centres. The mental automatism results, I consider, from over-action of the lower nerve-centres, because the highest or controlling centres have thus been put out of use. The automatism is not in these cases, I think, ever epileptic, but always *post*-epileptic. The condition after the paroxysm is duplex—first, there is a loss or defect of consciousness, and there is, secondly, mental automatism. In other words, there is (1) loss of control, permitting (2) increased automatic action." In support of these views Dr. Jackson records a large number of instructive cases in which the epileptic continues to do the thing unconsciously and imperfectly after the paroxysm which was in his mind when the paroxysm came on. Thus "a patient of mine," he says, "was seized with a fit whilst feeling a gentleman's pulse; when he came round in another room he began to feel his sister's pulse, she being near him."

The most elaborate case, having also the strongest medico-legal bearings, is that of an epileptic who, just before he passed into the status epilepticus, had arranged that his sister should have cocoa for supper, after which he said that, being alone, "I felt symptoms of an attack, and sat down, I believe, in a chair against the wall; and here my recollection failed, the next thing I was conscious of being the presence of my brother and mother, who had been sent for, as they lived opposite; and I have since been informed by my sister-in-law that she came into the kitchen and found me standing by the table mixing cocoa in a dirty gallipot half filled with bread-and-milk, intended for the cat, and stirring the mixture with a mustard-spoon, which I must have gone to the cupboard to obtain."

In another case, reported by Dr. Hughlings Jackson, the epileptic was found by his mother in a state of automatism brandishing a knife, but he had got hold of it by the blade and not by the haft. She took it from him and concealed it, but found him soon afterwards again brandishing it in a threatening manner, but this time it was shut up.

No doubt can be thrown upon the genuineness of these accounts from interested motive on the part of the narrators, who, with different temperaments or under other circumstances, might have committed crimes. Dr. Hughlings Jackson, while he points out the important bearing of his principles upon medico-legal investigations, has expressly refrained from applying them to the solution of particular instances of crime. They have, however, been so applied by others, properly, as I have said, in the case of Elizabeth Carr, but in other cases with a laxity of comparison which, if permitted, would make science the handmaid of injustice. In order to apply the principles of clinical medicine to the exoneration of criminals, not a vague resemblance which may be quite deceitful, but a real and natural uniformity must be established by a strict comparison of facts.

As an example of the absence of such uniformity, I may refer to the defence of Frederick Treadaway, which was that he had automatically killed John Collins while in a state of unconsciousness after a seizure of epileptic vertigo. The prisoner was found guilty and left for execution. He was subsequently examined by yourself, Mr. President, and by Dr. Crichton Browne, and upon your joint report, Mr. Cross advised the Queen to commute his sentence into penal servitude for life. Your report, Sir, has not been made public, but I think I shall not be far wrong if I assume that you came to the conclusion that the verdict of the jury was right, and that you recommended mercy on the ground that the responsibility of an epileptic might be diminished, even although he were fully conscious at the time of his offence, and that the criminal, having had one fit in the dock, he might have another fit on the scaffold, an occurrence which might readily produce a mischievous impression on the mind of the public. If such, Sir, were the gist of your report, its publication would, I think, have been satisfactory both to the profession and to the public; for while it was wise and merciful, it has not established a mischievous precedent of explaining crime by a pathological state not supported by evidence. On comparing the clinical with the criminal case—that is to say, the cocoa-mixing case with that of Treadaway, we observe that in the former there was undoubtedly a fit, the unconscious state lasting some time, long enough for friends to be sent for, and that the automatic actions, although carried out in general conformity with the preceding state of ideation, were irrational and inconsequent, the cocoa for supper being mixed in a dirty gallipot of cat's food with a mustard-spoon.

If we compare the cases I have referred to in Dr. Hughlings Jackson's paper (and they are the strongest and most applicable to legal inquiries in the whole series) with the circumstances under which Treadaway committed his crime, we shall find great and fundamental differences. Treadaway had just left his father's house in trouble. The day before the homicide he bought a revolver pistol. He had a long interview with his victim, in which his conversation and behaviour had been rational and tranquil. There had not been the slightest symptom of epileptic paroxysm or even of vertigo. When Collins's wife heard the report of the pistol from an adjoining room and asked Treadaway what that meant, he replied that he did not know. Then he shot Mrs. Collins, not killing her. She screamed murder, and he tried to stop her mouth with one hand and to strangle her with the other. Then he beat her head on the pavement several times. Then he escaped from her, opening the door himself, and running quickly, holding his hat on with one hand, and the pistol concealed under his coat with the other hand. In order that Treadaway's conduct should have resembled the cocoa-mixing case or the knife-brandishing case, the man ought to have held the pistol by the barrel or committed some other absurd blunder of action, whereas everything he did was directly and rationally consistent with the criminal purpose. It is probable that he had attempted to borrow money of the old man, and shot him on being refused, and to explain his conduct by automatism, or even by mental automatism, is impossible.

During the present spring assize at Cambridge, an epileptic post-office clerk, Frederick John Paton, who was proved to be an habitual letter thief, was defended on the ground that "*he was not conscious at the time that he committed the offence.*" A suspicion having arisen that Paton was a thief, a detective officer placed a marked half-sovereign in a letter, which was at once abstracted and found in the criminal's possession. An accumulation of gloves, trinkets, and other stolen property was also found in his chambers, and the fact that he had appropriated this property, and had not converted it to his own use or benefit—that is to say, had not sold it and spent the money—was urged as an argument in support of the defence, although it might only indicate that he retained some amount of cautiousness. That an epileptic post-office clerk might automatically attempt to sort letters is quite probable; that he might attempt automatically to open letters is not impossible, notwithstanding that it would be directly contrary to his habitual conduct, or to the idea in his mind at the invasion of the fit; the two circumstances which are said to characterise this form of consensuous action. But that any epileptic or any other person could, in a state of unconsciousness, open only such letters as by the sense of touch he might be led to think had valuable contents, like the detective's letter containing the marked half-sovereign, that is a proposition which no juryman in his right senses could, I think, be brought to believe. The case, however, serves well to illustrate the lengths to which this novel theory of irresponsibility, on account of epileptic unconsciousness or mental automatism, may, in the poverty of despair, be applied.

ON

SURGICAL EVIDENCE IN COURTS OF LAW,

WITH SUGGESTIONS FOR ITS IMPROVEMENT.

By JOHN ERIC ERICHSEN, F.R.S., F.R.C.S.,

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(Continued from p. 602.)

III.—SUGGESTIONS FOR ITS IMPROVEMENT.

In the preceding parts of this paper I have attempted to point out some of the principal evils and more serious inconveniences that attend the present method of taking surgical evidence in civil actions. I have endeavoured to show that the law as at present administered in compensation cases is harassing to the practitioner of medicine, is attended by serious inconvenience to the public at large, is wasteful of the time of men otherwise much occupied, and that the result, so far as the attainment of justice is concerned, is at the best doubtful in many cases. But, above all, the whole question as to the appointment and the method of taking the evidence of surgeons who are called as "experts" to give a scientific opinion on the case appears to require reconsideration and modification in many important particulars. Their selection by the litigants, and not by the Court, necessarily lays them open to the suspicion of partisanship, and undoubtedly does tend in the minds of most men to give a bias in favour of the side by which they are retained. Hence it is natural that their evidence should be received (often, I believe, most unjustly) with a good deal of suspicion by the Court, and occasionally with marked disfavour by the Bench. But though the evils of the present system are obvious enough, it is not so easy a matter to find a remedy that may not be attended by others as great as those which it is intended to remove, and I throw out the following suggestions in the hope that they may be productive of some good by directing attention to the subject, and animating its discussion, rather than in the confident expectation that the alterations of the present system proposed will be found to be readily practicable, or, if so, wholly efficacious. For in dealing with this part of the subject, and in stepping across the boundary line of my own profession into the province of another, I am conscious that my observations are liable to the same objections that attach themselves to those of the barrister who wanders beyond the limits of his own sphere into the confines of medicine.

The first inconvenience of the present practice of the law in the cases under consideration is that which results from the habit of indiscriminately and widely subpœnaing all those medical men who have at any time been consulted by the patient. This practice, attended as it is by serious loss both in time and money to the practitioner, and by much personal inconvenience not only to him but to the public, could in a great measure be corrected by raising the fee of

the surgical witness for his attendance in court, in civil actions, to something like a fair and reasonable standard. At present I am not speaking of the experts; they of course can make their own arrangements, and need not enter at all into the case unless they have previously secured adequate remuneration for their professional services, trouble, and loss of time. But the case is very different with the surgical attendant, whether he be a consulting surgeon or a general practitioner. It costs the litigant next to nothing to subpœna him, and as he can only claim the absurdly inadequate fee of two guineas for his day's attendance in court, no hesitation is felt in compelling that attendance. This practice would, I believe, in a great measure be checked if the fees of the medical witness, to be allowed in taxation of costs, were raised to something like a just and adequate standard. It should be, in the case of a general practitioner or regular medical attendant, at least from five to ten guineas for each day's or part of a day's attendance in court; and if the action is brought at a distance from the surgeon's residence, mileage at the usual professional rates should be allowed as well. It is clearly a monstrous injustice to compel a medical witness to undergo the fatigue of a journey of perhaps one or two hundred miles to the town in which the venue has been laid, and to remunerate him simply by paying his expenses in addition to the modest two guineas.

The importance of the evidence of the surgeon in a court of law is not so much to depose to facts as to give his opinion on the facts he has observed, and it is surely unfair in the highest degree to compel him to spend a whole day in or about a court of law for the purpose of giving this opinion, and then to award him for that service a sum that would probably not be more than the tithe of what he would expect and would receive from a private patient for a similar expenditure of time and of a like professional service. His opinion, be it remembered, is not asked for the purpose of vindicating public justice. Were this so, I can safely say that there is no class of men who would be more ready to give important professional service and to sacrifice valuable time than the members of the medical profession from a mere sense of duty, and with little thought of pecuniary reward. But it is not for any great end, as has already been shown, that they are compelled to waste precious hours for an inadequate remuneration; and here it is that they feel the hardship of their case—their time is sacrificed and their services called for merely in the hope that the opinion they can alone give may swell the damages of the plaintiff, who, when he has obtained his object, can turn round on his medical attendant, and recompense him for the opinion he has been obliged to give in a court of law, which was absolutely necessary for the plaintiff's success in the action he brought, and by which he has directly and pecuniarily profited to a large extent, by a miserable fee which would be considered to be utterly inadequate if tendered elsewhere. The first suggestion, then, that I would make, is that the fees to be allowed in taxed costs should, in the case of surgeons and medical witnesses in actual practice, be raised to a fair and adequate remuneration. In this way two important objects would be obtained—the practice of subpœnaing medical men broadcast would be checked, and when called into court their services would be fairly paid.

But another alternative exists by which the evils consequent on compulsory attendance in courts might be lessened. They would, I believe, in a great measure, be done away with, or, certainly, be greatly mitigated, were the evidence allowed to be given by affidavit rather than orally, so far, at least, as it did not relate to matters of fact, but only consisted of opinion.

In addition to the great advantage that would accrue to the practitioner and to his patients by his not being called away from his professional duties, evidence so given and committed to writing would be more deliberate, more careful in its wording, the opinions more scrupulously weighed, and less liable to be tainted by partisanship than it is under the present system of oral testimony. There is many a man who can neither trust his judgment nor his temper in the witness-box, and whose opinion might be warped by the confusion of the one or biased by the loss of the other, who would commit his views to paper on an affidavit in the most logical manner and in the most temperate language. Another advantage of such a method would be this, that were conflict of opinion to arise between scientific surgical witnesses it would be easier for the Court to come to a fair conclusion as to the value to be attached to each view if it were clearly set forth in a written document, than if, as at present, often hurriedly, and, perhaps, not very lucidly, expressed by the witness in his oral testimony.

But evidence by affidavit would necessarily be incompatible with trial by jury, and until another and simpler method of adjudicating these cases can be devised, it would not be admissible, however advantageous such a system might be to the surgeon and to the public. The objection to affidavit does not lie in the fact of the testimony thus given being written and not oral, but in the constitution of the court before which it would have to be given, for it is important to observe that written testimony is accepted from medical men in cases of a far graver character than those involving claims for compensation, and it is accepted, not as in an affidavit on oath, but unsworn.

Probably the most serious and the most responsible act that a medical man is called upon to perform in relation to the law in civil cases is to declare a person, whom he perhaps sees for the first time, to be a lunatic or of unsound mind. And there is probably no social event, short of condemnation for some heinous offence in a criminal court, that entails more appalling consequences on the individual, and often on his family, than his consignment to a lunatic asylum, though it be but for a single day. There can be no comparison between the social and personal importance of so trivial a matter as an increase of damages in an action for compensation and the crushing effect of incarceration in a lunatic asylum to the individual concerned. And yet the law requires the evidence in the first case—that of the claim for compensation—to be given on oath, to be subjected to the close scrutiny of hostile cross-examination of counsel, to be balanced by the calm summing up of a judge, and admits that in the other, and the far graver one, of a declaration of lunacy to be taken on medical certificates only. Such certificates are unsworn, and are only subjected—and that after the event has actually occurred for which they are written—to the supervision of Commissioners in Lunacy. But the law goes a step further than that. It refuses all hearsay evidence in the cases of the claim for compensation. It admits it in that of the alleged lunatic, for there is a special clause in the certificate in which the medical man is invited to state, in addition to what he has himself observed, what he has heard from others. Can anything possibly be more unequal! In the minor case oral and sworn evidence is required, carefully sifted, judicially balanced; in the far graver case written unsworn testimony, partly hearsay, is alone needed.

These considerations with respect to unsworn certifying lead me to say a few words on the question as to whether it is necessary, or even useful and advisable, to require scientific testimony to be given on oath. In doing so I would not wish to enter into the wide question of expert evidence, but simply to confine myself to the position of medical men wherever called to give scientific opinions.

I need scarcely remind the reader that every witness who appears in a court of law takes a solemn oath, the obligation of which is threefold—viz., to tell the truth, the whole truth, and nothing but the truth. That oath is of as definite and at the same time of as comprehensive a character as can be framed by the ingenuity of man and the power of language. No witness who feels its grave and full import can possibly, in deposing to a matter of fact, either evade, conceal, or exaggerate the facts to which he has to speak; and if the business of a scientific witness in a court of law were merely to depose to facts, no surer guarantee could be devised for obtaining a full, complete, and uncoloured statement of such facts of the case as had come to his knowledge.

The object of swearing a witness in a court of law is twofold—to bind his conscience by the solemn obligation he has taken, and to punish him for perjury if he wilfully gives false evidence. Now, it is certainly a matter of doubt whether an oath can in any way add to the validity of an opinion, however much it may secure the truth in a matter of fact. A man may conscientiously be a believer in the wildest theory or the most fanatical doctrine, but no scientific medical man will attempt to sustain a theory or to advocate a doctrine in which he disbelieves, even when unsworn. He is restrained by professional considerations of the strongest kind, by regard for his own character in the profession, by that of the opinions of his colleagues, and no oath is needed to bind his conscience in these circumstances.

It is evident that the second object of the oath—that of binding an untruthful witness to speak the truth by the fear of being prosecuted for perjury, can have no effect

whatever on scientific witnesses of any kind. Even admitting—which I do not—that a man of science will deliberately perjure himself by giving false opinions, it is evident that it would be impossible to prove that he had wilfully stated that which he believed to be false. No conviction for perjury would be possible in a matter of scientific opinion. Hence the administration of an oath to a scientific or medical witness who is giving evidence as an expert can avail nothing from either point of view, but is, at the best, unnecessary.[1] So far as his credibility is concerned it is in no way affected by his being sworn. It is determined by other conditions than his oath. His general professional character and social status, his scientific position, and his competency to give an opinion on the special question before him, have much more weight with a jury than the fact of his having sworn that what he is about to say he believes to be the truth. Further than that the oath cannot carry him.

The business of a scientific, and especially of a surgical witness in a court of law is less with the facts that he has observed than with his deductions from them. He is called not merely to state the bald fact that the patient has been injured in a particular way, but to give his opinion on the probable nature, duration, and consequences of such injury. For instance, a person has been injured in a railway collision by having had his leg broken. The surgeon fulfils most conscientiously the threefold obligation to which he is sworn by deposing that the leg has been broken, that the fracture is comminuted, and that no other injury than the fracture has been sustained. But it is not to depose to such facts as these—about which, indeed, there has been no contention—that he has been called. These are admitted on both sides. The questions that he has been called to answer are of a totally different kind. The patient fears he will never be able to use his limb again, or, if he can use it, then only to a limited extent. Now here the real business of the surgical witness begins. His opinion is asked on the admitted facts. "Will the patient, in your opinion, ever have a useful limb? If he will be able to stand, then will he be able to walk? If to walk, will he be able to run or to jump? and if so, when?"

Now how is it possible for a man, however experienced, to swear that he will speak the truth about what is not only a matter of opinion, but a matter in which his opinion may differ most honestly and conscientiously from that of other surgeons as able and as experienced as himself? He can, at most, only say on oath what he *believes* to be true; and that which he believes to be the truth may prove to be considered untrue, and the belief in its error may be sworn to by a second witness fully as competent to give an opinion as the first one. The truth of a fact can be deposed to absolutely and with certainty; the deductions from that fact can only be believed to be true or false according to the views of the deponent; their truth or falsity is a matter of opinion, not of fact. The presence or absence of bacteria in an infusion of hay can be deposed to as a matter of absolute certainty; their mode of development, if present in that infusion, is a matter of opinion; and what strength could be lent to the evidence of two witnesses by an oath, when one deposes that in his opinion they are generated spontaneously, whilst the other swears that he believes that they are the produce of pre-existing germs?

In an ordinary consultation, where there is a difference of opinion between two surgeons—say, for instance, in a case of doubtful injury in the neighbourhood of a joint,—one *believes* that the bone is dislocated, the other *thinks* not; but neither ventures to assert positively that his opinion is the correct one, however strong his belief in it may be. He does not give a positive but a qualified opinion on matters that admit of doubt. But such qualified opinions are distrusted in courts of law. A counsel is not satisfied with a witness who swears to his belief in a given explanation of fact; but he wants him to swear to an impossibility—the absolute truth of his own belief. The "germ theory" can no more be considered to be absolutely true merely because a man of science swears that in his belief it is so, than can the dogma of Papal infallibility merely because a good Catholic swears to his belief in it. Moreover, Science is constantly progressing. What is considered to be truth to-day may be proved to be error to-morrow. A scientific truth is not necessarily the absolute and final truth; it is simply an opinion which, with our present means and appliances and our present knowledge, we are incapable of disproving.

If the truth in such a case as that of injury of the leg just referred to were absolute and undoubted, there could be no contention; but in the case of the broken leg the whole question at issue, and that on which conflict of opinion arises, is not as to the present state, but as to the future condition of the man's limb; and not only may it justly be a matter of difference of opinion as to the degree of restoration of which the man's limb is susceptible, but the period that must elapse before the limb can be usefully employed may also be a point on which surgeons equally competent to judge may entertain different views. The surgeon who swears that in his opinion the limb will be as useful as ever in three months, and he who asserts that in his opinion it will be stiff and useless at the end of three years, may be equally truthful. Each swears to what he *believes* to be the truth, but neither does nor can swear to what he cannot *know* with certainty about a future event, which is not only beyond his "ken," but which may be materially influenced by intercurrent circumstances which are beyond his control.

But further than this, the opinion that has been conscientiously held and given on oath by the scientific witness for the plaintiff, which to the best of his judgment he has believed, and has stated to be the truth, may become materially modified, or may even be completely changed, after he has heard the statement of the medical witnesses for the defendant. The facts of the case, on which all are agreed, may have been interpreted by them in such a way as to throw a new light on the plaintiff's condition in the mind of his own witness. The belief in his own convictions—to the truth of which he has sworn—is shaken, if not destroyed. But he is not permitted to acknowledge the change that has taken place in his opinion. The practice of the courts will not allow him to re-enter the witness-box and to admit candidly, as he might and probably would do in a discussion in a consulting-room, that after having heard the views of the defendant's witness, his own had undergone a material change, and he now finds that his judgment of the case is not what it had been a few hours previously. What he believed to be the truth then he now regards as error. Although the facts of the case remained as he had observed them, the deductions which he had originally drawn from them had been proved to be erroneous. Such a candid admission of change of opinion is not only possible, but is common in consultations, is often the very object of the consultation; but the practice of the courts renders it impossible before a judicial tribunal.

(To be concluded.)

[1] Since writing the above my attention has been called to an extremely able article on "The Evidence of Experts," by Mr. G. Broke Freeman, in the "Law Magazine and Review" for February, 1878, in which the reader will find this question more fully discussed.

A CASE OF MIXED POISONING:

OPIUM, BELLADONNA, CHLOROFORM, CAMPHOR, AND METHYLIC ALCOHOL.

BY ALFRED J. BELL, M.R.C.S., L.S.A.,
HON. SURGEON TO THE PORTLAND-TOWN FREE DISPENSARY.

ON the 14th January last I was called to see a housemaid, aged thirty-two, at the house of a lady in this neighbourhood. She was suffering from renal colic; and as the pain was very severe indeed, I sent round to the house an anodyne mixture containing chlorodyne (which was not taken at all), and a small liniment bottle, of a capacity a little over two ounces, containing—methylated belladonna liniment, one ounce and one drachm; tincture of opium, one drachm; methylated chloroform, one drachm; methylated soap liniment, to two ounces and two drachms. This was labeled "poison" on a red label, and had plain directions to be used as an epithem on hot flannels. Soon after sending it I was sent for in great haste, and told that the patient had taken the liniment by mistake. I was on the spot, with an emetic and stomach-pump, within twenty minutes of the dose having been taken. I found the patient lying on the kitchen floor, semi-conscious, as if intoxicated. The pupils were widely dilated. There had been a little vomiting, the mistress having given an emetic of mustard-and-water.

With the assistance of my friend Dr. Goullet, who fortunately came in soon after I did, I introduced, through

a gag, the stomach-pump tube, and thoroughly washed out the stomach with warm water; continuing the process until no smell of belladonna could be detected. Ten minutes after my arrival she was quite unconscious, breathing heavily, and slightly convulsed. We placed her on the kitchen table, and tried all means at our disposal to rouse her. I injected half a pint of strong black coffee, with an ounce of whisky, into the rectum. We shook her, flicked her with wet towels, applied mustard to the chest and thighs, dashed cold water on the head from a height, without producing any effect beyond that of just keeping her breathing. She became worse. When raised at all, the action of the heart almost ceased, the pulse became irregular, the breath very shallow and intermittent. By about nine o'clock the extremities were cold, the lips lost their colour, and there was an occasional closing of the throat, threatening suffocation. At 9.30 I went to my house for a galvanic battery, and sent a messenger asking Dr. Buzzard to come to my assistance. He came within half an hour, and brought another battery of his own. Being of opinion that the only means of eliminating the poison then available was through the respiratory organs, Dr. Buzzard practised artificial respiration, and stimulated the phrenics during inspiration by pressing the poles of the battery above the clavicles just outside the insertion of the sterno-mastoid muscles, removing the poles during expiration. In a few minutes the breathing became deeper, and the lungs seemed to fill themselves thoroughly, though the effect was at first very transitory and the breathing became shallow when the galvanism was discontinued. We persevered for about half an hour, opened the windows to give plenty of fresh air, and turned the patient on her side occasionally to aid the release of any vomited matter from the mouth. Dr. Buzzard left at about 11.45, advising that the same treatment should be persevered in as affording the only chance, and that a slight one, for her recovery. At about 12 o'clock I noticed a slight improvement in the pulse, the breathing became spontaneously more satisfactory, and the temperature of the extremities rose. A thermometer placed in the vagina showed a temperature of 97°. The insensibility was complete. I applied hot bottles to the hands and feet, and injected half a pint of beef-tea into the rectum. Soon after there was a slight groan, and a tendency to vomit, encouraged by turning on the side, a little dark-coloured fluid coming from the mouth. By 2 A.M. she was quite warm, and breathing heavily and thoroughly, and groaned once or twice. At 4 A.M. the pulse changed and became fuller and more regular (98). She moved and awoke in a state of violent delirium like mania. She shrieked, struck out wildly, and bit her fellow-servant. I placed her on the floor and held her down. Though shrieking for water because she was on fire, she would not drink, but broke the cup. She evidently had curious delusions, complaining that people who were dead were looking at her, and spoke to people whom she imagined to be in the room. This lasted till about 6.30, when she fell into a quiet sleep. At 8.30 she woke up calm and sensible, and declared that she recollected nothing since she drank the poison fourteen hours before, except that her mistress gave her an emetic. Her mouth and throat being very sore, I ordered that she should drink freely of iced milk and cold beef-tea. The bowels, which had retained the injections, acted at about 9 A.M., and she passed water freely. At noon she was, though weak, free from any sensation of sickness, and only complained of dimness of sight and a burning feeling about the body. The next day she was admitted to University College Hospital, and I heard that in three days she discharged herself because she was not allowed as much to eat as she wished.

Although so large a dose of belladonna was taken, there was no rash produced. I consider that, but for the galvanism and artificial respiration, the case must have had a fatal termination, as at the time of Dr. Buzzard's arrival the action of the heart was rapidly failing, the breath was almost gone, and the cold affusion &c. tried by us had lost its effect in stimulating respiration. It is of great interest to consider what part the various antagonistic poisons bore in producing the symptoms—whether the belladonna, unless counteracted by the opium, would have destroyed life, and what effect the camphor (she swallowed about seventy grains in the soap liniment) or the methylated chloroform (about one drachm) had in the case.

I am indebted to Dr. Buzzard for the following note:—"When I arrived about 10.30 the patient lay on her back on the kitchen table motionless and profoundly unconscious. Her face was not pale; the skin moist, but without any excess of perspiration. Her lips were somewhat dusky in tint; the eyelids closed; touching the margin of the lid produced no reflex contraction of the orbicularis; the pupils were widely dilated; the optic axes slightly divergent; the globes not turned upwards. The jaws were closed, but could be opened without difficulty, and the tip of the tongue was found to be against the margin of the teeth. The breathing was extremely shallow, the respirations numbering about thirty in the minute. Artificial respiration being indicated, the Silvester method was applied for some minutes. I then proceeded to faradise the phrenic nerves by placing a metallic button rheophore (covered with moistened leather) over the lower end of the scalenus anticus muscle on each side of the neck, just outside the sterno-mastoid muscle, the posterior border of which was pushed somewhat forwards and inwards. The strength of induced currents employed was that which was sufficient to cause a lively contraction of the muscles of my thumb. A powerful and noisy inspiratory act took place when the circuit was completed; then one rheophore was lifted, and, the circuit being thus broken, contraction of the diaphragm ceased, and expiration took place, which was aided by manual pressure upon the ribs. This process was repeated about five or six times in the minute. The respiratory acts thus obtained were vastly deeper than had been previously taking place, and they continued to be deepened for a few minutes after the faradisation was suspended, gradually, however, returning then to their former shallow condition, from which they were roused by fresh applications of the rheophores.

"One hardly likes to speculate upon the nature of the toxic influences which were especially concerned in bringing this woman to death's door, for there was no means of knowing how much of the liniment was rejected during the action of the emetic. The camphor contained in the soap liniment would probably get precipitated, and in great part removed. The chloroform would be absorbed rapidly, and would aid the absorption of the opium and belladonna. Some of the methylic alcohol, too, would doubtless get taken up and assist in producing the symptoms of narcotic poisoning, which were soon observed. The specific action of the belladonna would appear to have been delayed to a certain extent by mixture with the other substances, for, although the pupils were early much dilated, it was not until about ten hours after the dose was received that the fierce delirium characteristic of belladonna-poisoning began to show itself."

Acacia-road, N.W.

ENORMOUS ENCHONDROMA OF HUMERUS; AMPUTATION AT SHOULDER-JOINT; DEATH FROM SEPTICÆMIA ON THE TWENTY-FIFTH DAY AFTER OPERATION.[1]

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F. L——, aged twenty-six, a native of Dewsbury, first presented himself as a private patient during Easter week of the last year, seeking advice with regard to an enormous tumour, occupying nearly the whole of his left upper arm.

I examined him, together with my relative, Mr. Hey, when we elicited the following facts:—The family history was good. A pawnbroker by trade, he had lived a quiet life; never had syphilis, nor any serious illness; never sustained any serious injury to the limb. Twelve years ago he first noticed an ill-defined swelling on the outer side of the arm, about four inches below the shoulder. It was firm, immovable, and painless. During the next three or four years it grew slowly, until the circumference of the limb at its thickest part was twice that of the opposite one. From that time the growth began to increase more rapidly, and to assume a more defined ovoid form, enlarging not only on

[1] Communicated to the Leeds and West Riding Medico-Chirurgical Society.

the outer aspect, but pretty uniformly all round the bone. It has been unaccompanied by pain or discomfort throughout, and up to the present time he is in good health and well nourished. The tumour has now attained immense proportions, measuring thirty-eight inches in circumference; but it is only from its great weight, and the mechanical encumbrance of so huge a mass, that he has at length decided to seek relief.

The growth has a smooth globose figure, rising markedly from the surrounding parts, and extending from close to the shoulder-joint (which it overtops without involving) to within three inches of the elbow; it is firm, hard, and elastic to the touch; no fluctuation, but a limited area of softening on the posterior and external aspects. There is no tenderness on pressure. The skin is uniformly stretched over the tumour, and is not discoloured. The superficial veins are distinct, and there is one large venous sinus in front, the size of one's little finger. The brachial artery can be traced four inches below the axilla, and is then lost, and there is no perceptible pulsation at the wrist, yet the forearm and hand are warm, natural in colour, and free from œdema. Sensation below the tumour is unimpaired. Movements of the elbow are normal, but he has no power of supination at the wrist nor of extension in the fingers. He has, however, wonderful freedom of movement at the shoulder-joint, and the scapula and axilla being uninvolved (while the pectoral and latissimus dorsi muscles are not wasted) he is able, by balancing himself on the right side, to swing the left arm round, as an athlete would swing a huge club, a feat which he is rather fond of exhibiting.

Under these circumstances we did not hesitate to advise amputation, and after he had taken two months to consider of it, I admitted him into the Leeds Infirmary on May 23rd, and kept him in bed for a week.

On May 31st I amputated at the shoulder. The subclavian artery being well commanded by Mr. Vernon, the house-surgeon, compressing it with both thumbs on the first rib, I began by entering the knife at the border of the latissimus dorsi, and, carrying it with a long sweep over the surface of the tumour to the front of the acromion, dissected up a large ovate skin-flap. Next, by depressing the limb, I was able to cut down between the tumour and the acromion, and open the joint, which was found to be healthy. An internal flap was then formed in the same manner as the external, the artery being divided last, and secured with comparatively little hæmorrhage. Special care was taken to prevent the entrance of air into the large venous sinuses when cut across. A stroke or two of the knife now completed the separation of the limb, and left two good and well-fitting flaps, which were brought together with sutures, and a drainage-tube inserted. There were no enlarged glands in the axilla, and no infiltration of the surrounding tissues.

The operation did not occupy more than twenty minutes from first to last.

The arm and tumour together weigh 33 lb. 6 oz. This is, I believe, the largest enchondroma of the upper extremity on record, being nearly double the size of that removed by Liston.

On June 2nd, the drainage-tube was removed, and the patient, who was in high spirits at the loss of his heavy burden, progressed favourably up to the eighteenth day, when his temperature suddenly rose to 105° F. without apparent cause. Three grains of quinine, given every four hours for a day or two, reduced the temperature several degrees; but on the twenty-second day he had a severe rigor, and from that time he sank rapidly, and died on the 25th of June.

Post-mortem appearances.—The glenoid cavity was perfectly bare, its margins only being covered with granulations. Lungs œdematous, with recent adhesions. Liver: Several superficial spots where pus was beginning to form. Spleen large, soft, and friable. Kidneys healthy.

A section of the tumour, made through its centre, and bisecting the humerus in its long axis, showed a fracture of the shaft about its middle, the medullary cavity being filled with the disease. The general structure of the mass was composed of large rounded nodules, some of cartilaginous firmness, others gelatinous-looking or pulpified, and all held together by a fibrous matrix. The vessels and nerves were not imbedded, but lay in grooves between the nodular masses.

The unfortunate termination of the case by septicæmia was the more disappointing because of the usually favourable issue of operations in similar cases, and especially because, in the present instance, the patient's age and condition had appeared to be so full of hope.

Leeds.

ON DIPHTHERIA (TRUE AND FALSE) AND THE ABUSE OF THE TERM.

By BERNARD O'CONNOR, A.B., M.D.,
PHYSICIAN TO THE WELSHPOOL DISPENSARY.

(Concluded from p. 605.)

Of seven well-marked cases of unmistakable and fatal diphtheria that I have had the opportunity of closely studying, three presented laryngeal symptoms throughout, and death within a fortnight seemed to be due to suffocation. In two of the seven failure of the heart's action was the immediate cause of dissolution during the fourth and sixth weeks respectively. The sixth case terminated with anasarca, traceable to chronic renal mischief within a year of the primary disease. In the seventh case, after about a week of partial convalescence, which commenced within three weeks from the advent of the throat affection, typhoid symptoms set in, and death, immediately preceded by coma lasting sixty-three hours, occurred nine days later. (Query: Was this typhoid or diphtheria? What relation does the one really bear to the other? Respecting throat manifestations, what line of demarcation exists between idiopathic erysipelas and some of the forms of cynanche?)

It is now close upon three years since I attended a case of what I call *real* diphtheria. It occurred in the person of the wife of a small farmer. She was forty years of age; had been under treatment from June, 1874, till the following January on account of an indolent ulcer on the leg of several years' standing. The ulcer was healed, and her health was excellent until March, 1875, when she became weak and slightly feverish, and presented symptoms of general malaise. A few days later the surface from the situation of the former ulcer down to the dorsum of the foot—a distance of ten inches—became inflamed and tense, and presently it felt boggy. Three large incisions were required to liberate a tenacious, purulent, semi-liquid, and foul-smelling substance from the leg and foot. About the same time deglutition was painful; the throat now presented the characteristics of *true* diphtheria; "false membrane" extended in every direction, and the faucial mirror demonstrated its presence in great abundance on the posterior surface of the uvula, &c. The raw surfaces on the leg at the points of incision became enlarged, and were then covered by a thick coating similar in every respect to the false membrane in the throat. The διφθεραι behaved in a manner so alike, the one to the other, that when low muttering delirium, which lasted twelve days, set in during the second week, I, each day on entering the sick room, could, from a glance at the leg and foot, infer the appearance of the throat. About this time I noticed much splenic enlargement, which continued for a fortnight. During this period vomiting was of frequent occurrence. The urine from the end of the first week was, for ten days, charged with albumen. This gradually lessened in quantity, and finally disappeared about a week later.

On the evening preceding the accession of delirium (six days after the appearance of the *διφθεραί*), I detected laryngeal respiration, and the pulse, which during the delirium became so small as hardly to be felt, stood at 130. Improvement in all the symptoms showed itself four weeks from the commencement of the illness; convalescence, attended with great physical depression, occupied close upon six weeks more, during which period slight hypæsthesia of the left (the affected) leg proved troublesome, but its complete removal followed upon repeated applications of aconite liniment. Shortly after this the usual good health was restored, and it has been enjoyed ever since. It may not take from the interest attached to this terrible case to observe that the house (three miles out in the country) stands by itself on sloping ground, with a cow-house under the same roof; the privy accommodation is on the slope behind the house, and the well supplying the farm is just in front; there was at that time a stagnant pool less than a dozen yards from the pump which is over the well. A few days after the appearance of the "false membrane" in this woman's case, I attended her eldest daughter for "sore-throat"; the following week the younger daughter was confined to bed with what simulated a mild attack of rheumatic fever, with difficulty of swallowing, and during the second week of the mother's illness I myself had to lay up for a day and a half, on account of utter prostration and intense headache. At the same house in March, 1876, exactly twelve months after the above attendance, a son aged eleven years, after an illness of only three days, died somewhat suddenly with all the symptoms of what was formerly called suppurative phlebitis. From October, 1876, to January, 1877, I attended the father with a bad attack of pneumonia complicated with typhoid manifestations. He made a fair recovery, and during the following March and April, a son, aged about nine years, was under my care for pleuro-pneumonia with typhoid symptoms; he also did well. In the above case of *real* diphtheria I trusted to large and oft-repeated doses of quinine, nitric acid, and perchloride of iron, swallowed slowly; gargles of chlorate of potash and dilute hydrochloric acid (half a drachm of each in an ounce of infusion of roses) also swallowed. During the delirium a Siegle's spray-inhaler was made to play on to the fauces, which were thus bathed in a solution of chlorate of potash and carbolic acid, and the mouth and nostrils were kept continuously covered by a muslin respirator constantly saturated with a *dilute* solution of sulphurous acid. When obtainable, small pieces of ice were sucked, and during the delirium brandy and tincture of opium were freely administered; strong beef-tea, custards, jelly, milk, and so forth were of course given on every opportunity.

It has not been my lot to treat a single case of muscular paralysis directly traceable to diphtheria, though last November I was consulted by a clergyman complaining of occasional difficult deglutition, which he and his friends attributed to a "severe sore-throat" during the previous summer.

In contrast with the above-recited case of true diphtheria, I would draw attention to nineteen cases of throat affection that have come before me in private since the middle of last October. They are most of them so similar that a *résumé* will suffice. Seventeen of them occurred in females; thirteen of the seventeen were unmarried (including three widows); in nine out of the thirteen, and in one of the remaining four, the attack commenced three or four days prior to the appearance of the catamenia, and, oddly enough, in four out of the nine the menses were overdue about a week. Menstruation in all these (nine) cases was immediately followed by marked improvement. The symptoms were malaise for an afternoon, soreness of throat and dysphagia, say the next day, slight headache with feverishness (temperature ranging from 38° to 40° C.), hot and dry skin, dusky redness of fauces with prominent and pale edges of palatine arches, but no *διφθέρα* throughout, nor albuminuria. At least a dozen of these cases had of course been classed as "diphtheria" by the patients and their friends, and comparisons with recent cases of that disease (?) among their acquaintances were advanced in support of opposition to my opinion; three out of the entire number had previously been professionally condemned as diphtheritic, yet one of these three presented nothing more than the slight blush of inflammation of the fauces and uvula which preceded a mild bronchitis.[1] One case (not of the catamenial group) was that of a woman whose son had died from what I afterwards learned to be scarlatina. She made an excellent recovery under prompt but simple treatment. A child, aged two years, who had lately recovered from measles, furnished a striking example of severe "thrush," the appearance of the mucous membrane of the mouth closely resembling what is observed in the throat in real diphtheria. Leeching and calomel and opium brought the eighteenth case, a middle-aged bachelor, through a bad acute laryngitis, and the nineteenth, a married man, recovered from an obstinate pharyngitis. My continued refusal to employ the term "diphtheria" in connexion with any of these cases was fully justified by their course, symptoms, and rapid and complete recovery. The average period of treatment in these "adiphtheritic" cases was five days. I attached great value to the local application of a solution of nitrate of silver (fifty grains to an ounce) once or twice a day, and the internal use of quinetum and iron. Purgatives and other details of treatment were of course demanded, according to the necessities of each case, and for the very painful condition of the throat in a few of the above I found a powerful remedy in the hydrate of chloral and glycerine epithem recommended in cases of true diphtheria by Dr. Cesare Ciattaglia, of Rome.[2] To this I add a little extract of opium, and apply with a throat-brush having the proper angle.

Whether *real* diphtheria does or does not, as a rule, occur more than once in the same person I know not. In one individual I have noticed "adiphtheria" three times in twelve months; and from repeated observation I have formed the opinion that it mostly occurs in damp, close, and sultry weather.

In conclusion, I will remark that each collection of leading symptoms which we group together and call some particular "disease" should have the best available name which would indicate, if possible, some prominent sign: e.g., "diphtheria," on account of the *διφθέρα*; or "*false* membranous laryngitis," on account of the "false membrane." We should entirely obliterate such a term as "croup," which to Trousseau's mind was nothing less than "diphtheria" limiting itself to the larynx and trachea; i. e., "croup"—if we must refer to so misleading a word—is simply "diphtheria" occurring in a particular situation. I say misleading, since "croup" is merely an onomatopœial term indicative of a peculiar sound which may arise from one of several causes: *frottement* might with greater propriety be used to designate pericarditis.[3] My contention is, that in *real* diphtheria the characteristic exudation will appear; and in the absence from a district of a well-marked typical case, we are not justfied in assuming that the sore-throats of common occurrence acknowledge a diphtheritic origin.

Welshpool.

[1] I have frequently noticed, in cases similar to this one, that if the "blush" is confined to the fauces only, the stress afterwards falls upon and limits itself to the larynx.

[2] THE LANCET, vol. ii., 1876, p. 9.

[3] In the nomenclature adopted by the Registrar-General diphtheria is placed in the list of "general diseases" along with cholera and pyæmia; while under the heading "diseases of the respiratory system" croup is bracketed with hay-asthma as being a disease "*not strictly local.*"

NOTE ON A CASE OF AORTITIS,

WITH POST-MORTEM EXAMINATION.

By RICHARD GREENE, L.R.C.P., &c.,
MEDICAL SUPERINTENDENT, EAST RIDING ASYLUM.

ACUTE inflammation of the aorta is by no means a common disease, and is probably diagnosed even less frequently than it occurs. Wood, usually so careful and complete in his descriptions, refers to it briefly; Hughes Bennett does not mention it; two or three other text-books to which I have referred merely give it a glance; and the diseases of the vessels are not included in the last-issued volume of Reynolds's System. Presumably therefore there is not much known about the general symptoms or course of the disease, and the following notes of a case in which I had the good fortune to obtain a post-mortem examination may prove interesting to the readers of THE LANCET.

S. L——, a male, aged about forty-five, was admitted into the East Riding Asylum on the 4th of May last. He was in the first stage of brain-softening, and previous to admission had often suffered from convulsions, which were

erroneously described as true epilepsy. There was slight paralysis of the lower extremities, but this was not always easy to recognise, as he walked lamely in consequence of osteoma of the distal end of the femur. On the 6th of June he had one of the fainting attacks which are not infrequently seen in some forms of brain-softening, and which, except for their longer duration, bear so close a resemblance to the *petit mal* form of epilepsy. He soon recovered from this—recovered at least as far as his usual amount of consciousness and mental power was concerned; but there was perhaps a slight increase of the hemiplegia, thus confirming the opinion that the case was one of brain-softening. On the 14th, a similar attack occurred, but instead of rallying he became much worse on the second day—could not move his limbs nor speak, and it was difficult to get him to take food, as he seemed to have almost lost the power of deglutition. On the 17th the heart's action became very weak, though it was neither irregular nor intermittent, and the pulse varied from 99 to 110, getting weaker and weaker, until it was imperceptible at the wrist, about an hour before death. At the time of admission the patient was free from thoracic disease. Two days before death he was again examined with the stethoscope, and no murmur was detected over the heart or aorta, but as there were loud mucous râles heard on auscultation over the lungs, it is very probable that a murmur was present, and escaped observation. Death took place on the 17th, being about seventy-two hours from the commencement of the last fainting attack, and a post-mortem examination was made forty-eight hours after death.

All the organs were examined, and traces of disease found in the brain. It will be sufficient, however, to give the appearances presented by the aorta, merely remarking that there was no sign of embolism in the cerebral vessels. On the removal of the lungs and heart attention was at once drawn to the aorta by its bright-red colour, which was so intense that the extent of the inflammation was seen without laying open the vessel. On dissecting the aorta downwards it was noticed that the redness gradually faded towards the bifurcation, and that half an inch or so beyond both iliacs had preserved their usual colour. On tracing the vessel upwards, the innominate, carotids, and subclavians showed the same bright hue, but it did not extend further than about an inch in the carotids and subclavians. All the vessels were laid open, when it was found that a fibrinous layer lined them to the same extent as the colour was seen externally. On running the finger over the surface, it was smooth in the direction of the blood current, but it felt slightly uneven when the finger was moved in the opposite direction. This layer could be peeled off without much difficulty; it was about the thickness of paper, decidedly tough, and even when removed from the vessel had the same intensely red colour. It was thickest in the arch of the aorta, and extended to the very origin of the vessel in the left ventricle. The aortic valves were competent, and free from the least signs of disease. Neither in colour nor texture did they show the least trace of morbid action, and it was not a little strange to look upon these valves which had preserved their normal structure and function within touch of an acutely inflamed aorta. Here there was no gradual passage of diseased into healthy structure. The line of demarcation was abrupt and unmistakable. The endocardium was normal.

It is not easy to say whether the aortitis dated from the commencement of the last fainting attack. It could scarcely have existed long before that, as the patient was up and walking about until suddenly struck down by the fit, which for the first twenty-four hours exactly resembled that noted eight days previously.

Beverley.

ACCORDING to a recent report of the Commissioner of Agriculture in Tennessee, Mr. Jez Killebraer, the consumers of tobacco on the face of the earth number not less than 800,000,000. Probably more reliance can be reposed upon the figures this gentleman gives as to the production and commerce in tobacco in the United States. Thus, in 1860, he writes, the States produced over 430,000,000 lb. of tobacco, but ten years afterwards the yield of the plantations had fallen to 260,000,000 lb. The report does not give the yield of the tobacco crops in subsequent years, but it mentions that the exports of the herb alone in 1875 reached about 220,000,000 lb., valued at more than 25,000,000 dols. The value of the export of leaf tobacco in 1877 was 29,000,000 dols.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

ABSCESS OF THE LIVER, SEQUENTIAL TO DYSENTERY; ASPIRATION; DEATH; NECROPSY.

(Under the care of Drs. LANGDON DOWN and STEPHEN MACKENZIE.)

THE following notes should be read in conjunction with those of a case of abscess of the liver published in the Mirror of April 6th.

W. S——, aged thirty-six, a waterman employed by the London and St. Katherine Dock Company at Gravesend. He had lived all his life at the riverside at Gravesend, and had spent the greater part of each day on the water. About seven years before admission he was laid up with what he called an "ulcerated stomach," by which he meant severe pain at the pit of the stomach, aggravated by food, especially if solid, relieved by the recumbent position. He did not remember that he vomited or passed blood by the stomach or bowels, or that he had diarrhœa. The pain gradually wore off, but the attack left him weak. With the exception of occasional colds, and dyspepsia if he took supper, he remained well until the summer of 1871. All through that summer he had pain in the abdomen, not localised, aggravated by taking food hurriedly, unattended with vomiting. He had every few days attacks of looseness of the bowels, but did not observe any blood in his stools at this time. About the middle of September of the same year the pain, which had been occasional, became continuous, and greatly increased in severity; it was localised at the pit of the stomach. Diarrhœa became more decided, blood and "slime and corruption" being noticed in his stools. Towards the end of September, and the beginning of October, the motions consisted of little more than blood and mucus. They were always passed with the greatest ease, and he had no tormina or tenesmus. In October he came under Dr. Fenwick's care, as an out-patient, for the dysenteric symptoms. These were relieved by the treatment employed, and the pain he had had all along ceased; but with the subsidence of the epigastric pain and diarrhœa, a new pain of a different character made its appearance in the right hypochondrium. About six weeks later he noticed a swelling in the situation of this pain—i. e., just below the margin of the right ribs—and this gradually increased up to the time of admission. He stated positively that he had had no rigor throughout his illness, and that he had never once vomited. Several members of his family had suffered from "ulcerated stomach." He said the locality in which he lived at Gravesend was generally considered healthy, that diarrhœa was not common, and that his medical attendant had never known a case of dysentery to occur there.

He was admitted into the hospital on January 9th, 1872, under the care of Dr. Langdon Down. He was a sparely made man, with fair complexion, light-brown hair, and blue eyes. Cardiac dulness normal; heart-sounds healthy, but first sound and apex-beat exceedingly feeble. Percussion and auscultation of lungs normal. Liver dulness, bounded above by the lower margin of the fifth rib, extended about an inch below the costal arch. The lower part of the right chest was unduly prominent, having a convex surface about the size of a child's head; this was made more evident by the corresponding portion of the other side of the chest being retracted. The protrusion of the chest-wall commenced at the sixth rib, and extended to the margin of the ribs below. The intercostal spaces between these two points were almost obliterated. Springing from the lower part of this prominence was another smaller one, commencing at the lower border of the ribs, and extending two inches inwards from the mammary line. It projected above the surface sufficiently to be very obvious to the naked eye, and was about

the size of a hen's egg. The skin covering it was red, and felt doughy, as though something were making its way to the surface. Fluctuation could be felt over the tumour. There appeared to be a portion of liver below the swelling, but this could not be accurately determined owing to tenderness at this point; elsewhere the abdomen was not tender. Splenic dulness not increased. No ascites; no œdema of the lower extremities; tongue slightly furred; appetite good; no nausea or vomiting. Bowels acted about three times a day; motions loose, but free from blood and mucus. All he suffered from was a burning, gnawing pain in the region of the swelling in the right hypochondrium, and he kept his hand over the part to protect it from the pressure of the bedclothes.

On Jan. 16th the skin was more red over the swelling. The largest needle of Dieulafoy's aspirator was introduced, and many ounces of reddish-brown or chocolate-coloured fluid drawn off; the microscope showed this to consist of pus-corpuscles, compound granular corpuscles, and coloured blood-corpuscles. The aspiration caused no pain, and it afterwards afforded relief.

For several days after this there was no material change in the patient's condition, except an evening rise of temperature. He had pain in the region of the right hypochondrium. The abscess continued to discharge itself through the small opening made by the aspirator. Several ounces of dark-coloured matter escaped, which Dr. Fenwick found in part to consist of broken-down liver-cells. The skin around the opening was very thin and red on the 5th of February.

On Feb. 14th the aperture was enlarging, and the skin around sloughing.

On the 24th the sinus almost admitted the little finger; the skin was sloughing for some distance around, and external to this it was red and œdematous. The patient had not suffered much pain at any time, only a gnawing feeling in the region of the liver. He had not vomited or shivered, but all along he had wasted and weakened, and been hectic. He was extremely feeble, his pulse soft and very compressible. Bowels acted regularly; there was no diarrhœa, and the appetite had been hitherto fair. The abscess discharged large quantities of broken-down liver-substance; it had been washed out daily with lukewarm water.

Sloughing of skin went on uninterruptedly, and on Feb. 29th the necrosed skin was as large as the palms of two hands. What came from the abscess was now a dirty fetid-looking fluid. He wasted visibly, and was very weak. No vomiting, shivering, or purging. Patient gradually sank, and died March 2nd.

Necropsy.—Body extremely wasted. There was a large gaping wound in the right hypochondrium opening into peritoneal cavity. The heart was wasted, valves and orifices healthy; left ventricle firmly contracted. Lobular pneumonia and œdema of both lungs; base and posterior part of right lung covered with recent lymph. Spleen normal. Liver: Upper surface of right lobe excavated by a large, ragged, irregular cavity, with sloughing walls. Left lobe had three masses of soft curdy matter not yet broken down into pus. Numerous smaller masses were scattered throughout substance of liver. The hepatic flexure of the colon was adherent to liver. A large sac, extending from the lower part of thorax to the crest of ilium, outside peritoneum, but communicating with the general peritoneal cavity. The intercostal nerves lay in the sac dissected out, as by a scalpel. Stomach and small intestines healthy throughout. Large intestine, from ileo-cæcal valve to rectum, studded with ulcers, some circular, some transverse, some with solitary follicles, enlarged and surrounded by commencing ulceration. Coats of intestine much thickened. No pigmentation of mucous membrane. Kidneys normal.

Remarks by Dr. STEPHEN MACKENZIE.—The case was one of much interest. It is usually stated that abscess of the liver (so-called "tropical abscess") does not follow upon dysentery acquired in this and other temperate countries. Though rare, I have, however, seen more than one instance of this. The connexion between dysentery and abscess of the liver has given rise to much discussion. It is argued by some—Dr. Budd, for example—that it is due to purulent absorption from the intestine and deposition in the liver. Yet it is not, at least always, due to this occurrence. Morehead has collected twenty-one fatal cases of hepatic abscess without ulceration of intestine. Waring found that in 204 cases of hepatic abscess, fifty-one cases, or one quarter of the whole number, were free from ulceration of intestine. At Netley, also, of forty-eight fatal cases of tropical abscess, in thirty-four there was no intestinal lesion. Moreover, when they coexist, the abscess may precede the dysentery. It has been stated that something more than dysentery is required to produce the abscess; for when dysentery does occur in temperate climates abscess of the liver does not result. This statement the present case refutes. Dr. Baly stated that out of hundreds of cases of dysentery at Millbank prison, not one had abscess of the liver. The explanation of this is, that his cases of dysentery were of scorbutic origin. Abscess of the liver does follow dysentery of malarious origin in this country, as in the above case and others which I have seen. Sir Ranald Martin, Morehead, and Murchison are inclined to attribute the abscess to hepatitis, arising from exposure to cold. But in India, hepatitis and abscess of liver especially occur in hot low-lying localities where malaria is endemic, and the range of malarious dysentery and hepatic abscess is almost identical. The evidence therefore seems to point to the malarious origin of the abscess of the liver. It may be that some particular form of malaria, or some other coexisting circumstance, determines the occurrence of abscess; for while it is common in India and China, it is rare in the West Indies. In the present case aspiration was not attended with benefit; in others it is much more successful.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.

CASES OF MINERS' NYSTAGMUS.

(Under the care of Dr. BELL TAYLOR.)

IT is important to remember that in the following cases Dr. Taylor states that there was no ametropia, and that the sight was good when the eyes were at rest.

CASE 1.—Benjamin W——, aged forty-four, a miner residing at Clay Cross, applied at the Eye Infirmary on Dec. 26th, 1877. He stated that he had worked in a pit for thirty years, that his sight began to fail six months ago, and gradually got worse, so that he became unable to work. The eyeballs oscillated whenever he looked earnestly at any object. The oscillations were synchronous, horizontal, and equal in extent and number—namely, seventy-six in a minute. He said he had not been accustomed during work to look upwards, but downwards, and that the dimness of vision was much aggravated by stooping. General health good; moderately temperate; does not smoke much. Ordered to give up working by artificial light, and to take small doses of steel and nux vomica thrice daily.

CASE 2.—J. H——, aged twenty-nine, applied at the infirmary on Jan. 1st, 1878. Had worked at the Annesley pits twelve years. Three weeks ago he noticed that his Davy's lamp began to "dance" whenever he attempted work; said that it was often necessary for him to look upwards while at work, that he required to strain in order to see in the dim light of the pit, and that the defect was aggravated by stooping. In this case it was somewhat difficult to excite the oscillations, and they were not manifest until he had been shut up in the dimly-lighted ophthalmoscopic room and induced to stoop for ten minutes. It was then seen that the oscillations were both vertical and horizontal, causing a rotatory movement of the globes. They did not number more than fifty in a minute, and soon subsided. He attributed these favourable symptoms to his having had a "drop of drink," which he said had enabled him to master the disease. Is sometimes intemperate, and smokes moderately. Ordered to discontinue working in the pit, and to take bromide of potassium and tincture of nux vomica.

CASE 3.—James A——, aged fifty-four, applied on Dec. 3rd, 1877. Had worked seventeen years at the Seymour pit, Stavely, and had had several blows on his head. In this case horizontal nystagmus was readily excited by directing the patient to look inwards. The oscillations numbered 100 in the minute. He said the disease had existed for a year, and was brought on by using a Clennie lamp, which flickers, and is consequently much worse for miners than the Davy lamp. He had not to look upwards while at work, and the disease was aggravated by stooping and exertion; fairly temperate, but smokes half an ounce daily. Ordered arsenic with steel and nux vomica thrice daily; to cease working underground and give up smoking.

CASE 4.—Samuel C——, aged twenty, applied on Feb. 1st, 1878. Had worked ten years in the Annesley pits. Horizontal oscillations 50 in the minute; had been suffering six months; had not to look upwards when at work; was much worse when stooping, and attributed the disease to Clennie's lamp; is temperate, and no great smoker.

CASE 5.—Frederick E——, aged fifty, residing at North Wingfield, applied at the infirmary in November, 1877. His eyes were quiet when he was in repose, but if he became excited they would begin to oscillate horizontally as much as 90 times in a minute. The disease was aggravated by stooping or looking upwards, which he said sets them "a-gate." Had been bad seven months, and the eyes had got worse even while resting. Is temperate, but a great smoker. Ordered to leave off smoking and working underground, and to take phosphide of zinc, with steel and nux vomica.

Remarks by Dr. BELL TAYLOR.—This curious affection, which has only attracted notice of late years, is evidently more common than most writers on the subject suppose. The five preceding cases have come under my notice within as many months, and there are always one or two cases under treatment in the out-patient department of our hospital. The disease is clearly the result of strain, and appears to be analogous to writers' cramp, pianists' and telegraphists' cramp, or the similar affection of the gastrocnemii occasionally observed in ballet-dancers; and may be developed in any or all of the muscles supplied by the third nerve, and is clearly caused by the overtaxing of these organs. The patient makes a great and sustained effort to see in a dim light; the muscles engaged in the accommodative strain are overburdened, in course of time give way, and at last, whenever called upon, just as in the analogous cases cited above, become, as it were, agitated, fluttered, escape from the control of the will and perform irregular motions. If the internal recti are most affected, horizontal oscillations occur; if the superior rectus and inferior oblique have been overtaxed, owing to the patient having been compelled to raise the eyes above the horizontal plane, the oscillations are either vertical or rotatory—in either case they usually vary from 60 to 120 in the minute. If one eye turns inwards during the oscillatory motion more than the other, the effect of a squint is induced, and the patient sees double. The remark of one of the patients as to a drop of drink enabling him to master the disease is significant evidence as to the influence of a want of tone in favouring the advent of this affection. In all the above cases the sight was good when the eyes were at rest. The fundus was healthy, and there was no ametropia. The disease may last from a few months to a few years, but, as a rule, the patients get well if they leave off working in the pit, abandon bad habits, and attend to the general health.

LIVERPOOL ROYAL INFIRMARY.

MALIGNANT DISEASE OF BLADDER AND RECTUM; COLOTOMY.

(Under the care of Mr. REGINALD HARRISON.)

IN the following case colotomy was performed, with considerable temporary success, for the relief of recto-vesical fistula.

James R——, aged fifty-three, was admitted on October 9th, 1877, suffering from a recto-vesical fistula of a malignant nature. The disease appeared to have commenced in the rectum ten months previously. On admission the patient was in a very miserable and reduced condition. Within the rectum was a scirrhous ulceration, which communicated with the bladder by means of an opening, through which a large-sized bougie could be passed. On introducing a catheter into the bladder there was first an escape of most fetid flatus, followed by urine containing fæces in considerable quantity. The patient was suffering very severe pain, much of which was due to the collection of flatus within the bladder. Frequent washing out of the bladder and rectum, in addition to various anodyne applications, failed to give any permanent relief. After a consultation with his colleagues, Mr. Harrison opened the left colon, and made an artificial anus. The operation was effected without any difficulty, the gut being readily found.

The relief that followed was most marked, all the more distressing symptoms at once disappearing, and for some time the patient improved. The disease was, however, evidently very extensive, and death took place from exhaustion seven weeks after the operation.

At the post-mortem examination the posterior wall of the bladder was found completely involved in a scirrhous mass undergoing ulceration. The communication between the rectum and bladder would admit the passage of two fingers. No other cancerous deposits were discovered.

The operation quite fulfilled all that was expected of it—that is to say, it was the means of prolonging life and mitigating pain. The chief distress of the patient on his admission was referable to the distension of the bladder with flatus and feculent matter. Mr. Harrison remarked that, as all means of relieving this by medicine had proved ineffectual, there were only two courses open—viz., either to paralyse the sphincter ani by such an incision as would be followed by incontinence of fæces and flatus, or by opening the colon to divert the fæces from the fistulous communication. The latter course was decided upon as affording the best means for giving relief. Mr. Harrison's previous experience of the operation was very favourable to it, and he had no hesitation in recommending it in cases such as these.

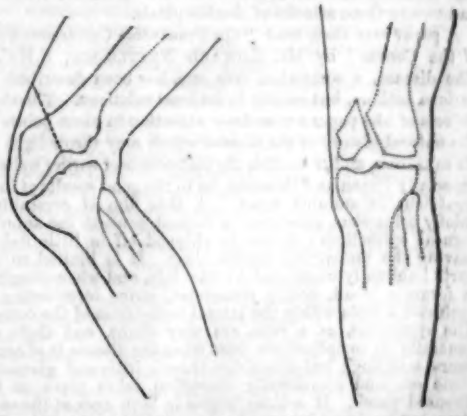
QUEEN'S HOSPITAL, BIRMINGHAM.

EXTREME GENU VALGUM IN BOTH LOWER LIMBS; SUBCUTANEOUS DIVISION OF THE INTERNAL CONDYLE OF BOTH FEMORA; COMPLETE REMOVAL OF THE DEFORMITY.

(Under the care of Mr. FURNEAUX JORDAN.)

THE efficacy and apparent safety of this operation, together with the ease with which it may be performed, promise to give it permanent value.

Thomas D——, aged twenty, was admitted with severe double in-knee. He could walk with crutches only, and then not without pain. The deformity was increasing, and gave him a dwarf-like appearance; one knee overlapped the other when his feet were put to the ground. Mr. Jordan performed (March 31st, 1877) the operation devised by Dr. Ogston, of Aberdeen, with the instruments used by Mr. Adams in section of the neck of the femur. A tenotome was introduced about three inches above the centre of the internal condyle of the left femur, and carried into and through the joint to the front of the notch between the condyles; Adams's saw was passed along the incision, and, the teeth being



directed backward, the internal condyle was sawn through. The tibia was then with moderate force readily put into a proper position, driving upwards the detached condyle, ready for union in its new position. All antiseptic precautions were taken. The limb was kept in position by a long splint. No shock, or bleeding into the joint, or synovial effusion, or fever followed. Six weeks later the right knee was operated on in a similar way. The limbs retained an excellent position, and after a few weeks passive movements were made, the first time under chloroform. The man soon walked with straight limbs and knee action, but it was found that some talipes equinus retarded easy progress. It was proposed to

relieve this. He was now so much taller that when he stood and held his crutches in his axillæ they did not touch the floor.

Remarks.—Mr. Furneaux Jordan remarked that when he admitted this case he was much impressed by a recent operation of Mr. Annandale's (subsequently repeated by Mr. Howse), in which the joint was freely opened, antiseptically, and the inner condyle sawn off level with the other. These operations did well, but they were necessarily followed by anchylosis. While considering what he should do the *Edinburgh Medical Journal* brought Dr. Ogston's operation to his notice. This operation, he believed, to be less severe: it removed nothing; above all, it left the articular surfaces free. Mr. Jordan touched briefly on two questions: Was the operation strictly subcutaneous? and what would have been the result without the antiseptic precautions?

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Transverse Calcareous Film of Cornea.—Treatment of Arterial Hæmorrhage from Punctured Wounds in Neck.

THE ordinary meeting of this Society was held on the 23rd inst., Dr. W. Wood, Vice-President, in the chair. Two papers were read, one by Mr. Nettleship on a rare form of corneal opacity, and the other by Mr. Cripps advocating ligature of the external carotid artery for the arrest of arterial hæmorrhage in punctured wounds of the neck.

Mr. HUTCHINSON showed two male patients who presented paralysis of all the external muscles of the eyeball, whilst the pupils were normal, and power of accommodation was perfect. They thus presented a contrast to the condition of ophthalmoplegia interna which he had described in his late paper. In answer to Mr. Power, Mr. Hutchinson said that in both there was a history of syphilis. The curious point in these and other cases he had seen was the manner in which the muscle of accommodation escaped. Both these men had also had obvious cerebral symptoms; one had had ptosis, first of one eye and then of the other. The ptosis had passed away under iodide of potassium, but paralysis of the superior and inferior recti remained. The other man had had two or three attacks of double ptosis.

A paper was then read "On Transverse Calcareous Film of the Cornea" by Mr. EDWARD NETTLESHIP, F.R.C.S. The disease, a somewhat rare one, has been described by various authors, but chiefly in its local relations. The chief objects of the paper are to draw attention to some points in the natural history of the disease which may throw light on its causation, and to confirm the statements of earlier writers, especially Dixon and Bowman, as to the good results of local treatment in suitable cases. A thin film of crystalline, chiefly calcareous, substance is formed beneath the anterior corneal epithelium; it can be chipped off in little flakes, leaving the underlying cornea clear. It is limited to the parts habitually uncovered by the lids, and when complete it forms a broad, nearly transverse, stripe terminating at each end a little within the lateral boundaries of the cornea. The symptoms, as a rule, are very slight, and there are generally no complications, even when the disease is of many years' standing; but sometimes chronic iritis and glaucoma come on, and occasionally ulceration takes place on the diseased patch. It seldom begins in both eyes at the same time, but is almost invariably symmetrical in the end. The film is formed slowly, and may continue to increase for some years. The disease is one of middle and advanced life, and its subjects, almost without exception, are males. Occupation seems to have no direct influence. The morbid tendencies of the patients, so far as they are at present known, lead the author to suggest that, in regard to causation, excess of uric acid in the blood furnishes the most likely explanation from the constitutional side, though local peculiarities, not at present understood, are necessary as determining causes. Several new cases with naked-eye and microscopic drawings are given. The paper is supplemented by abstracts of all the published cases (fifteen in number) known to the author, and in some of these (recorded some years ago by Mr. Fairlie Clarke) the present condition of the patients has been ascertained.—Mr. POWER commenced his remarks by offering his congratulations to the author upon his recent appointment to one of the most important ophthalmological offices in London. He could add but little to what Mr. Nettleship had said, but thought most of the cases were referable to the gouty diathesis, the corneal opacity being also associated with accumulation of white matter along the borders of the lids. At the same time exposure to irritants might determine the corneal change. In several cases he had chipped off the thin film by means of a cataract knife.—Mr. HUTCHINSON thought the paper contained many excellent hints and suggestions. He did not think the affection was so directly connected with the gouty diathesis as Mr. Power implied, and the first case he saw was one under the care of Messrs. BOWMAN and Dixon, and referred to by Mr. Nettleship in the paper. That case was at first thought to be gouty. Since then he had seen only two or three cases, and had not found them associated with gout. He suggested that, of predisposing causes, senility took first rank, and next, perhaps, gout, whilst no doubt other contributing causes, such as exposure to irritants, nerve-disorders, &c., might be present. He contrasted the condition in these respects with Dupuytren's contraction of the palmar fascia, which may be a senile change, or associated with gout, or induced in predisposed subjects by local inflammation, and he inquired whether this palmar fascial contraction was met with by Mr. Nettleship in many of his cases.—Mr. NETTLESHIP, in reply, was interested to hear that Mr. Power had seen several cases of this affection. In none of his cases had he been aware of the presence of the condition of the palmar fascia referred to by Mr. Hutchinson, but he had not sought for it. Certainly it was never present so as to give rise to any discomfort. Since his paper was sent in he had seen another case in a female, and in this case only one eye was affected, although it had lasted for forty years. The patient was not gouty, but the urine was habitually loaded with lithates.

A paper was then read on the "Treatment of severe Arterial Hæmorrhage from Punctured Wounds of Throat and Neck, especially considered with regard to Ligature of the External Carotid Artery," by Mr. WM. HARRISON CRIPPS, F.R.C.S. The paper discusses the treatment to be adopted in cases of severe arterial bleeding, that have resisted all simple means, and in which operative measures become necessary. The class of cases include punctured wounds about the angle of the jaw and through the mouth, hæmorrhage from the tonsils, or from cancer of the tongue or mouth, and secondary hæmorrhage after surgical operations, &c. The treatment usually adopted in these cases has been a ligature upon the common carotid. Upon analysis of a considerable number of cases, it is found that, after this method of treatment, rather more than half the patients die. The causes of these deaths are approximately as follows:—Rather more than 30 per cent. from brain symptoms; rather more than 30 per cent. from recurrence of the bleeding; and 30 per cent. from other causes. It thus appears that one-third of these deaths are directly due to ligature of the carotid, and that in another third the operation had proved useless for arresting the bleeding. The brain symptoms appear to result from the already anæmic brain having a considerable portion of its blood-supply suddenly cut off. hæmorrhage, occurring from the original wound (after ligature of the common trunk), must either be due to the blood coming as a regurgitant stream brought down the internal carotid, or by blood being brought through the fine anastomoses of the terminal branches. Experiments and facts narrated in the paper show that in a certain number of instances the bleeding is due to a regurgitant stream through the internal carotid, or to blood brought to the proximal end of the wounded vessel by the inferior thyroid. A table accompanying the paper shows how the bleeding vessel, wounded in the situation described, has most commonly proved to be the external carotid, or one of its branches, a wound of the internal carotid being of rare occurrence. Having discussed the cause of the high mortality following ligature of the common carotid, ligature of the external carotid, about half an inch from the bifurcation, is recommended as likely to prove a safer and more efficient method of controlling the bleeding. The grave danger of cutting off the blood supply to the brain is avoided by this

operation, while, at the same time, the chance of recurrent hæmorrhage is diminished in proportion to the number of instances in which it occurs as a regurgitant stream. The objections raised to the operation are: (1) the fear of secondary hæmorrhage from the proximity of large branches; (2) that, should the wounded vessel prove to be the internal carotid, a ligature upon the external would be a useless operation. The first objection is answered by reference to cases narrated by M. Guyon, showing the rare occurrence of secondary hæmorrhage from the external carotid. The second, by the comparatively few instances in which the wounded vessel has proved to be the internal carotid. Moreover, should the mistake occur it is not beyond remedy, for a ligature might still be placed on the common trunk at its bifurcation; on the other hand, no remedy can be found for a patient dying in a comatose condition caused by obstructing the internal carotid on account of a wound of the external carotid or one of its branches. — Mr. HOLMES only recalled one case of punctured wound in the neighbourhood of the tonsil in which the internal carotid was thought to have been invaded, and ligature of the common carotid was had recourse to. If in such cases it were certain that the wounded vesssel was not the internal carotid, but a tonsillar branch of the external carotid, then clearly it was right to tie the latter vessel by preference. Mr. Cripps' argument was forcible, that the same incision made to expose the external carotid would serve also to secure the common trunk, supposing the first ligature failed to arrest the bleeding.—Mr. M. BAKER had tied the common carotid in a case of hæmorrhage in the neighbourhood of the tonsil, from an injury by a tobacco-pipe. The patient died from the loss of blood rather than the operation, and the ascending pharyngeal was found to have been the vessel wounded, showing that in such a case ligature of the external carotid would not have succeeded. Still, for the majority of cases the suggestions of Mr. Cripps were of value.—Mr. H. CRIPPS, in reply, said that in his collected cases only seven or eight were of wounds within the mouth, the majority being wounds behind the jaw. Wounds of the internal carotid were very rare, even in injuries in the neighbourhood of the tonsil, the tonsillar branch of the facial artery lying more superficially than the internal carotid, which out of five cases had been found post mortem to be wounded only in one.

MEDICAL SOCIETY OF LONDON.

Congenital Wry-neck.—Syphilis as a cause of Aphasia and Ataxy.

AT the meeting of this Society on April 15th, Mr. Erasmus Wilson, President, in the chair, Mr. EDMUND OWEN exhibited two children who had lately been under his care for Congenital Wry-neck, and in whom the treatment had been as simple as the result had been satisfactory. Each child had been born after prolonged and difficult labour. The first case was that of a boy who had been an in-patient at St. Mary's Hospital with extreme contraction of the clavicular part of the right sterno-mastoid. The other was that of a little girl who had been treated at the Hospital for Sick Children for contraction of both portions of the left sterno-mastoid. Each case had been well-marked, especially as regarded the distortion of the face. The contracted muscular bands having been divided subcutaneously, small pads of dry lint were strapped over the separate punctures, nothing further being done until the small skin wounds had soundly healed. Then the patient was made to carry a weight about the ward in the hand of the affected side, the neck being inclined so as to exert a constant strain upon the muscles and fasciæ which had been dragging the head towards the shoulder. The neck was frequently rubbed and shampooed, and the head was daily coaxed towards a correct position by gentle but firm manipulations. By night the child was made to lie on the affected side upon a firm mattress, the head being supported on a sand-pillow of proper thickness. Without the aid of any mechanical apparatus, belt, or band, this method of treatment produced a thorough cure of the wry-neck in each patient after five or six weeks; the face also steadily improved. Mr. Owen remarked that though there might be nothing absolutely novel in the plan adopted, still it might be worth while recording the result of a rational method of treatment without the usual expensive and complicated apparatus. Though every case of congenital wry-neck might not yield to such means, still in most cases this simple treatment might be satisfactorily adopted. The little girl nearly succumbed during the operation, owing to air having entered a large vein which had been wounded during the division of the clavicular part of the muscle. This serious complication might have been due to the tight stretching of a large vein across the track of the knife during the forcible raising of the head. The whiz of air entering the wound in the skin was distinctly audible, and there was free venous hæmorrhage. The child turned extremely blue, and convulsively struggled for breath.—Dr. WILTSHIRE thought that these cases showed the excellent result of surgical treatment rationally applied.—Dr. HAVILLAND HALL asked the length of time the patients had been under treatment.—Mr. MAUNDER mentioned a case in which he tried without success all measures short of an expensive instrument before resorting to tenotomy. But after division of the muscle the case did well. Only one puncture was necessary to divide the two origins of the sterno-mastoid, and he doubted the wisdom of discussing with the patient's friends all the possible complications that might result from the operation. He mentioned cases of torticollis caused by traction during birth, and others due to syphilis.—Dr. WILTSHIRE said that torticollis was rarely met with in children delivered by the vertex, but was more frequent in cases of breech or footling presentation. The muscle usually ruptures at the junction of the sternal and clavicular portions, an extravasation of blood taking place in the neighbourhood. Some cases were undoubtedly of syphilitic origin. Contraction of the sterno-mastoid sometimes arises after the acute specifics. In a severe case that came under his care the patient, a girl, did not get well until after the period of puberty. He asked whether it would not be sufficient to divide one head only, or the muscle at the junction of the two parts.—Dr. GILBART SMITH remarked that there were still some signs of irritability about the muscle in the boy.—Mr. OWEN agreed with Dr. Wiltshire as to the causation of the disease, and also as to the condition of the swelling. It was advisable to operate early in these cases; it is better to divide the muscle low down to avoid the risk of hæmorrhage from the fleshy part of the muscle, and he prefers making two incisions. The cases had been five and six months respectively under treatment. A few fibres which had escaped division remained somewhat irritable.

A paper was read by Dr. DRYSDALE on "Syphilis as a Cause of Aphasia and Locomotor Ataxia." Next to embolic plugging of the Sylvian artery, syphilis was probably the most common cause of aphasia, and cases were given in which cerebral symptoms appeared seven, nine, and eleven months after the chancre, as also cases where the symptoms had appeared very late in the disease—e. g., twenty or thirty years after infection. Whereas in common aphasia from plugging of arteries the hemiplegia is almost invariably right-sided, in syphilitic aphasia as many as fourteen cases of left hemiplegia had been cited to eighteen of right hemiplegia as an accompaniment of the aphasia. In one case there was paralysis of both upper limbs, and paraplegia in four cases. There was paralysis of the right arm alone in two cases, and of the left arm alone in one. In three cases all the limbs were affected. In some cases there was no paralysis at all, and in others there was great loss of intellect. Syphilitic aphasia frequently comes on in the secondary period of the disease, when roseola and iritis are present. The prognosis is very grave, although some surprising cures by means of large doses of iodide of potassium are on record. Mercury does not seem to be a prophylactic to cerebral syphilis. As to locomotor ataxy, almost all writers on nervous diseases rejected syphilis as a true cause of the disease, yet it frequently figured in the history of the case, and, moreover, there was no *à priori* reason why syphilis should not cause sclerosis of the posterior columns of the cord, as it causes sclerosis in other organs. Dr. Alf. Fournier had found antecedent syphilis in twenty-four out of thirty cases of ataxy, and had collected eighty cases from the journals in which syphilis occurred in the history. Prompt treatment with large doses of iodide of potassium might often arrest a disease which was regarded as incurable and progressive; and Dr. Drysdale advocated that, wherever there was the slightest possibility of syphilis being the cause, the patient should have the chance given him of a vigorous treatment by means of the largest doses of iodide of potassium he could take without iodism, with

or without the addition of doses of one-fiftieth of a grain of the perchloride of mercury. — Dr. WILTSHIRE asked whether the case of aphasia without paralysis was not one of glossoplegia, and whether the patients with aphasia and left hemiplegia were not left-handed. Mercury was of value if used in late stages of syphilis. He could not doubt as to the syphilitic origin of locomotor ataxy. — Dr. GILBART SMITH spoke of the early diagnosis of locomotor ataxy by striking the patient below the patella. He mentioned an interesting case of aphasia without paralysis. Death occurred suddenly a week after the appearance of this symptom, and a new growth was found in the left frontal lobe.—D. DE HAVILLAND HALL said it was hardly fair to assume that syphilis was the cause of an aphasia in every case in which the patient could be shown to have had a chancre at one period of his life. How was the occurrence of aphasia four months after the primary sore explained? It was hardly possible that a gumma should have been developed in the brain by this time.—Dr. JAGIELSKI thought other drugs besides iodide of potassium should be tried.—In this Dr. ROUTH concurred, and thought it was too much the fashion to attribute everything to syphilis.—Mr. BLOXAM had not met with cases of ataxy at the Lock Hospital, but had seen cases of syphilitic origin at Charing-cross Hospital. Syphilis was common enough in women. Why did they so seldom suffer from locomotor ataxy?—Dr. DRYSDALE said his cases were instances of aphasia and not glossoplegia. In all there was a more or less continuous history of syphilitic troubles. The case of aphasia coming on four months after infection he would attribute to disturbance of the circulation.

PROVINCIAL MEDICAL SOCIETIES.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—At the meeting on April 5th, at the Royal Kent Dispensary, Greenwich, Dr. Creed in the chair, Dr. THOROWGOOD read a paper "On the Use of Mercury in certain Inflammations." The object of the paper was to show with what success mercurial preparations might be employed against persistent bronchial inflammation arising from cold, and occurring in persons of febrile temperament and average strength. In feeble and aged persons mercury might be injurious. The author was of opinion that while many years ago mercury was given far too freely, yet now practitioners were becoming unduly timid in its employment. Reference was made to a paper on the treatment of pleuritic effusions by the late Dr. Hope, published in 1841, wherein thirty-five cases of pleuritic effusion consecutively were stated to be cured by the use of mercury internally and by inunction. Dr. Thorowgood quoted cases of pleurisy and peritonitis very successfully treated by the mercury pill with squills, and also by calomel and opium. Never had he seen any injurious effect produced by this plan of treatment, and only once was there any symptom of mercurial sore mouth observed. When absorption commences, and pulse and temperature fall, then the case may be managed usually without a continuance of the mercury.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY. — At the meeting on April 3rd Dr. BALFOUR showed a female patient who had suffered from Spanæmia twelve months previously, and six months afterwards with general dropsy and dilatation of the heart. Large often repeated doses of digitalis (20 to 30 minims every four hours) were followed with the best results.—Mr. SYMINGTON showed a specimen of forward Dislocation of the Humerus.—Dr. CADELL read a paper on a case of Umbilical Urinary Fistula. The patient was a delicate female child, who had for years suffered from frequent micturition, and two years before she now came under care she had typhoid fever. On November 27th, 1877, she was seized with severe pain in the abdomen, which was hard and tense, whilst urine escaped through a fistulous opening at the umbilicus. There was much cystitis and great difficulty in passing urine by the urethra. She died on March 16th, and Dr. Wylie found that the urachus had remained partially pervious, the bladder greatly contracted. There was double hydronephrosis, thickening, and dilatation of the ureters.—The President (Dr. Argyll Robertson) had no doubt that the obstruction to the outflow of the urine from the cystitis had led to the dilatation of the ureters and of the imperfectly closed urachus.—Dr. George Bell suggested that a small calculus might have been present in the imperfectly closed visceral opening of the urachus.—Dr. Cadell, on the other hand, thought the cystitis was secondary to the imperfectly obliterated urachus. No calculus had been detected.—Dr. ANGUS MACDONALD then read a paper on the Essential Pathology of Puerperal Convulsions, giving the results of the post-mortem examinations of two cases performed by Dr. D. J. Hamilton. There was intense anæmia of the deeper portions of the brain and cord, with extreme engorgement of the meninges. There was vascular dilatation and leucocytic infiltration of the medulla, and a small extravasation in the right corpus striatum. In the kidneys there was colloid degeneration of the epithelium in some of the tubes lying near the capsule. The author held that in puerperal convulsions there was cerebral anæmia resulting from over-stimulation of the vaso-motor centres, as indicated by the sub-inflammatory changes in the medulla. This nonstimulation was due to retention within the blood of materials which should be separated by the kidney—in fact, uræmia. The renal lesion being degenerative and not inflammatory, explained the absence of fever with renal symptoms in pregnancy, and the limited extent of the lesion pointed to the comparative readiness with which the albuminuria of pregnancy was recovered from. Discussion on the paper was adjourned.

GLASGOW MEDICO-CHIRURGICAL SOCIETY. — At the meeting on the 5th April, Dr. G. H. B. MACLEOD gave a demonstration of Sayre's method of treating Caries of the Spine. He pointed out the essential vice of former modes of treatment, and insisted upon the fact that Pott's disease of the spine was almost always traumatic in its origin, not diathetic, as commonly believed. He gave a detailed account of the diagnostic signs and symptoms of spinal disease in the different parts of the spinal column, and applied Sayre's plaster-dressing to an adult patient at present under his own care in hospital. Of the various substances which had been used for the dressings—glue, paraffin, starch, and plaster—he decidedly preferred the last named as the cleanliest, and, in all respects, the best.—Dr. William Macewen said that on this last point he gave the preference to paraffin, if of a kind which melted at 129°.—Dr. Morton took exception to what Sayre and Dr. Macleod had advanced in regard to the alleged traumatic origin of Pott's disease. A blow, or such like, was often the proximate cause; but only in cases in which a certain diathesis existed would this set up the disease.—Dr. A. Patterson also preferred paraffin for dressings; it set almost at once, and was not at all dirty to handle. Several other members discussed the subject.

THE MARTIN MEMORIAL.

WE have been requested by the trustees of the Martin Memorial Fund to publish the following appeal:—

Royal Victoria Hospital, Netley, April 25th, 1878.

Shortly after the death of the late Sir Ranald Martin, C.B., a meeting was held in London to take measures to perpetuate the memory of this eminent military physician.

Many of the leading members of the medical profession were present, and took part in the proceedings, and it was determined to raise a sum of money sufficient to give a gold medal, to be competed for twice a year by the candidates for commissions in the medical services of the British and Indian armies and the Royal Navy in the Army Medical School, the medal to be awarded to the candidate taking the first place in Military Medicine.

A sum of money, amounting to £361 16*s.*, was accordingly subscribed. Suitable dies for the medal were prepared by Messrs. Wyon, the well-known medalists, and (after paying the cost of these) the money remaining was invested in the names of Sir William M. Muir, K.C.B., the Director-General of the Medical Department of the Army, and Professor W. C. Maclean, C.B., of the Army Medical School.

Three medals have been given since the institution of this prize; but the trustees regret to say that to enable them to go on giving a gold medal each session, without touching the capital, a further sum of £70 is required for investment.

The trustees appeal to the friends of the late Sir Ranald Martin, and, in particular, to the medical officers of the three services—old Netley men—to assist them by subscriptions (limited in this country to 10*s.*, and in India to five rupees), to carry out the original purpose for which the medal was founded. The above-named trustees will be happy to receive contributions.

W. C. MACLEAN, M.D.,
Surgeon-General, Professor of Military Medicine, &c.

THE LANCET.

LONDON: SATURDAY, MAY 4, 1878.

WHEN Mr. HARDY appointed the small War Office Committee which is now inquiring into the causes which prevent candidates offering themselves for the Army Medical Service, a circular was sent to the various licensing bodies and to the teachers in the principal medical schools, requesting their opinion upon this point. The only two answers which have as yet been made public are those of the Royal College of Surgeons in Ireland and of the professors of the School of Physic there. The former appear to have gone into the question of the causes of discontent in the Department rather than of those which restrain candidates from coming forward, while the latter confined themselves to the specific question submitted to them. There can be no doubt that anything which excites discontent among the officers must have a certain restrictive effect upon the supply of candidates, because they naturally recommend any students who come within their influence not to join the service; but this is only an indirect influence, while there are several direct causes which may, to a great extent, explain the reluctance of medical students to come forward. The first of these direct causes is undoubtedly the system of short service introduced by Mr. HARDY. No man who has any respect for himself or regard for his future career would care to enter a service in which the chances are 9 to 1 that he will be turned adrift at the end of ten years—with £1000 it is true, but also with the stigma attached to him that he was not worth retaining in the Army. Until this Warrant is cancelled, we do not expect to see candidates offer themselves. Of course it can only be cancelled prospectively, as faith must be kept with those who joined under its provisions. The next objection, as stated by the professors, is "the feeling of distrust produced by the frequent changes in Warrants and regulations." It must be admitted that the Department has been overdone with Warrants, four having been promulgated within twenty years; but in most of these the changes introduced have been advantageous to the medical officers, and where they have not been so, some compensating advantage has been conferred. We cannot say the same, however, of the changes effected by confidential memoranda and War Office Circulars, which have modified, curtailed, or taken away privileges granted by Royal Warrants. The effects of these proceedings have been such as to render it improbable that the authorities will again resort to them, but it is natural that men now joining the service should desire some assurance on this head. The professors assign as a third reason "the disadvantage at which medical officers are placed, as compared with other officers, in respect to several matters—such as sick and ordinary leave, exchange, and barrack privileges." Now the question as regards leave is one of great difficulty. There is no difficulty in supplying the place of a regimental officer; anyone can do his work, and, in time of peace at least, there are always more officers than are required for duty. But the place of a medical officer can only be supplied by one of his own department, and the concession of equal privileges in this respect would involve an increase in numbers which no War Minister would venture to propose. Besides, it may be fairly assumed that this is one of the drawbacks to the Medical Service which are supposed to be compensated by the higher rate of pay as compared with the corresponding ranks of the other officers. Probably in some cases the Director-General might be able to lessen the hardship thus unavoidably inflicted, and we think it a matter well deserving his consideration. With regard to exchanges, these assuredly ought to be permitted, when they can be made without injury to the service, and without inflicting injustice upon other medical officers—as, for instance, by interfering with the roster for foreign service. The question of barrack accommodation is one also deserving the Secretary of State's consideration. Now that medical officers are, under the new system, ranked as departmental, and are no longer members of a mess, they are fairly entitled to quarters on the departmental scale when sent into barracks for the convenience of the service. We think, if these points were satisfactorily arranged, there should be no difficulty in getting candidates to come forward.

But while these seem the chief obstacles to the supply of candidates being forthcoming, there are certain matters noticed by the Royal College of Surgeons in Ireland which ought, in justice to the officers now serving, to be remedied. The withdrawal of forage from those who entered the service prior to 1873 should be cancelled, or some equivalent granted them for the loss of that which was guaranteed by Royal Warrant. Those officers who entered subsequently have no claim to it, as it was not one of the conditions of the Warrant under which they took service. With regard to servants' allowance, medical officers should be put on the same footing as the Royal Engineers, who are not entitled to a soldier servant from their corps, but receive a money allowance in lieu thereof. It is difficult to understand why the officers of one scientific branch of the service should receive 1*s.* 6*d.* per diem, and those of another only 1*s.* per diem, to compensate for the same privation. Another complaint is that the roster is inaccessible to medical officers at Whitehall-yard. Surely the Director-General will remove this cause of complaint on his own authority.

We have left untouched the question of the regimental system because we feel sure that no Government will revert to it until the new system has had a fair trial; and we believe that when this is given medical officers will be in favour of the unification system. Politically it has the advantage of being suitable alike for peace and war; socially it has the advantage of making the department a scientific corps instead of a mere number of units tied to different regiments—in fact, a set of knotless threads. It also removes the opportunities for favouritism on the part of the Director-General in making the regimental appointments. It abolishes the dual character of the department, consisting of a minority of officers enjoying the ease and luxury of a regiment at the expense of a majority who have all the rough work to do, and it will equalise the amount of home and foreign service. We desire to see the Army Medical Department a scientific corps, composed of gentlemen who take a pride in their pro-

fession, and not of a set of men whose ambition lies in gold lace, brass spurs and scabbards, and who despise everything that has a tendency to make them professional. We do not for a moment wish it to be supposed that science and slovenliness are synonymous, or ought to go hand in hand. We trust the medical officers will never forget that they are gentlemen; but we also hope that they will take a pride in their professional position, and will subordinate mere military show to the higher requirements of members of a scientific corps.

THE London Hospital is, we are glad to say, finding a way out of its financial difficulties by appealing to the liberality of the City of London. The expenses of the hospital are £44,000 per annum, and the reliable income is £14,000. About £30,000 has annually to be squeezed out of the public, and during the past two years the success of this squeezing process has been so indifferent that the current expenses have exceeded the income by something like £38,000. The special meeting at the Mansion House and the special appeal which was lately made have been successful, and we have little doubt that the sum which it is sought to raise for the maintenance of the hospital during the next five years—viz., £125,000—will be obtained. At the end of the five years the £125,000 will have been spent, and what then? is the question which the intending contributor will ask. In 1883 the necessary expenditure will not be less than in 1878, and we do not understand, unless there be some reason which is not made public, why support for five years is so particularly asked. It may be that at the end of five years the property which the hospital owns will very greatly increase in value owing to the falling in of leases or some other happy accident, but if such be the case it is surely advisable to inform the public of the fact, for a knowledge of it would make the conduct of the Committee appear reasonable, while at present it simply appears reckless. In 1876 and 1877 we believe that £38,000 worth of stock was sold to meet current expenses, and the reliable income of the institution was thus diminished probably by some £1400 per annum, while its annual expenditure, owing to the building of the Grocers' wing, has been necessarily increased by at least £8000. At present the hospital spends on current expenses every halfpenny that it receives in legacies, donations, and subscriptions, and still fails, or has failed, to get from the public some £20,000 per annum which is necessary for its maintenance. Between 1878 and 1883 the expenditure is to be met by a special appeal, and if the Committee are a prudent body they must be able to tell us, and are bound to tell us, how the hospital is to be supported from the year 1883 onwards. Every hospital ought to look forward to its eventual independence, to the time when it will be no longer necessary to spend large sums of money upon collectors' fees, advertisements, annual reports, and special appeals. This is only to be done by cutting the coat according to the cloth, by apportioning the expenditure to the reliable income; but the London Hospital seems determined to follow its former tactics of raising its income by expensive, constantly recurring spasmodic efforts, to a level with its expenditure. It would be interesting to know what this institution has spent upon special appeals in the last twenty or thirty years. We are glad to see that there has been a threat to close beds, in accordance with the advice which we tendered a short time back, and if the necessary funds are not forthcoming we hope that the Committee will adopt this course, and only open so many beds as the public is willing to provide for. The remarks of Mr. ALSAGER HAY HILL upon the position of the London Hospital are not without point, and will do good, we think, in calling attention to the fact that the inhabitants of the East of London are not all squalid beggars. Mr. HILL says that as he walks along the Whitechapel-road he is confronted with countless palaces of the people in the shape of public-houses and theatres, and that, judging by the merchandise exposed for sale in the streets, the dwellers in the district seem to have ample money to spend upon luxuries of various kinds, inclusive of photographs and pine-apples. Why, he asks, should not the London Hospital be, "in large measure at least, supported by those who use it?" We believe that no sufficient reason can be given, and we further believe that when the inhabitants of the East of London have been properly educated to it, they will be found perfectly willing to perform their duty. We pointed out in a recent article on this subject the enormous increase of out-patient relief in proportion to the population, and we believe that without any difficulty this out-patient work at least might be made self-supporting, and with benefit alike to the patients, whose cases would be properly attended to, and to the medical staff and students, who would derive far more instruction from a leisurely examination of a small number of patients, than from a hurried review of a multitude, the majority of whom are affected by slight and passing ailments. We are aware that a people's fund has been started in connexion with the London Hospital, but this is purely voluntary in its working. What we wish to see is a more compulsory levying of a small tax upon the crowds who use the hospital as out-patients, and further, that employers of labour should at least be made to pay for the keep while in hospital of any of their servants who may be admitted as patients. They would still be receiving medical attendance and lodging for nothing.

The poor of a district soon get to know that hospital appointments are much prized by the medical profession, and it is not surprising that they should prefer to go to a place where they can get the best advice for nothing, rather than trust to a chemist or an overworked and underpaid general practitioner. We feel sure that the majority of hospital out-patients would willingly pay the very small sum which would be sufficient to cover the actual cost of their attendance, and possibly provide a small surplus towards the support of their more unfortunate brethren who have been compelled by accident or disease to become in-patients.

Not only is the London Hospital in difficulties, but the Royal Infirmary at Liverpool is also at a loss to make its expenditure and income balance. The committee of this institution have a deficit for the year 1877 of £5000, and since the year 1862 the annual subscriptions have fallen off to the amount of £976 10s. The *Liverpool Daily Post*, in commenting upon this serious deficit, asks whether the committee of the Royal Infirmary can count "on adequate support from the public so long as they offer no security either for the more equal management of their income or for the more economical restriction of their expenditure?" The

writer of this article comments on the fact that at the Royal Infirmary a legacy once invested cannot be used for current expenses. This, it is pointed out, is too stringent a rule, and it recommends that half the sum received in legacies should be invested, while the other half should be used to form a reserve fund, which might be temporarily invested, but which might and should be drawn upon to meet extraordinary expenditure or to cover current expenses when the ordinary income, from unforeseen circumstances, falls below an average. This seems to us to be a good suggestion; at least, it seems important that contributors to the funds of a charity, whether by legacy or donation, should have some certain knowledge of the ultimate destination of their gifts. If this knowledge be not given, we blame no one for not contributing.

THE precise nature of the enlargement which organs undergo when subjected to the stimulus to growth which increased work supplies, is a point in histology of both pathological and physiological importance. But the difficulties in its determination are very great; so great, indeed, that investigations have hitherto led to most discordant conclusions. The question is—Does the increased size depend on an increase in the number of the tissue-elements of which the organ consists, or upon an increase in their size? In VIRCHOW's terminology, is there a hyperplasia or a hypertrophy? The same problem is presented by many organs. In regard to the heart, it has been the subject of much discussion, and cannot be regarded as settled beyond dispute, although there is a decided balance of evidence in support of the opinion that the enlargement of the organ depends on an increase in the number rather than in the size of the muscular fibres. The same problem is presented by the kidney. When one organ is so diseased as to have its functional capacity considerably lessened, still more strikingly when, as in the cases we lately discussed, one kidney is congenitally absent, the increased work which is thrown upon the other kidney entails uniformly a proportional increase in size. Upon what does this increase depend?

The study of the structure of the enlarged organs shows at once one fact—that the enlargement does not depend upon an increase in the adventitious constituents of the organ, the connective tissue and vessels. These are increased only in relation to the increase in the kidney; they bear the same proportion to the size of the enlarged as to that of the normal organ. It is evident that the increased size depends upon the proper structures of the organ, the renal tubules and glomeruli. Are they, however, increased in size or in number? There is no other alternative, and the question can be settled by proving or disproving the occurrence of either of these changes. One is, however, much more easy of determination than the other. We need hardly say that it is an impracticable task to ascertain the number of the renal tubules; and investigators have, in all cases, fallen back upon the other element as the most easy of observation, the determination of the dimension of the elements, whether there is or is not an increase in their size.

ROSENSTEIN endeavoured to settle the question by experiments upon dogs. He excised one kidney, kept the dog alive for one hundred days, and then examined the histological condition of the other kidney. He came to the conclusion that there is no increase in the size of the glomeruli or convoluted tubules, and believed that the enlargement was due partly to the increased size of the epithelial cells and connective tissue, but chiefly to the increased quantity of blood, lymph, and urinary constituents in the organ. This conclusion is opposed to the results of the examination of the enlarged organ in cases in which it has been subjected to increased work for a longer period; and it may well be doubted whether the length of time was sufficient to allow the development of new structural elements or the growth of the old to take place. The condition of the organ in man was carefully investigated by PERL, who asserted that the increased size was due to an enlargement of the constituent elements, to a true hypertrophy, affecting the different elements in different degrees, and most of all those which are of the greatest importance in the secretion of urine, the convoluted tubules, the Malpighian bodies and straight tubules being scarcely at all increased in size. GUDDEN has recently endeavoured to settle the question by extirpation of the kidney in newborn rabbits, and he, on the other hand, has found enlargement of the Malpighian bodies of the enlarged organ, and concludes that it is upon this increase in size that the increase in the size of the organ mainly depends. On the condition of the tubules he could come to no conclusion.

An important contribution to the settlement of these disputed questions has been made by BEUMER, in a very careful and extensive series of measurements of the size of the tubules and glomeruli of a kidney enlarged to six inches in length in consequence of the congenital absence of the other organ, and a comparison of these with a series of measurements in two normal organs. It is unnecessary to go into the details of the measurements, which were made with great care, and with due regard to the variations which exist in the size of the glomeruli in the various parts of the cortex. The average results in the enlarged and in the healthy organs corresponded very closely. A slight increase in the size of the Malpighian bodies was noted, to which, on account of the variations, BEUMER attached little importance, although it is, we think, of some significance in connexion with the circumstance that a similar slight increase was noted by PERL. But it bears no proportion to the increase in the size of the organ, and the conclusion is reached that this does not depend on any increase in the size of the glomeruli, of the convoluted tubules, or of the straight tubules. The increase in the size of the kidney must therefore depend on an increased number of its elements—on a true hyperplasia of all the tissues contained in the organ.

What change takes place in the organ in the process of normal growth? PERL endeavoured to ascertain this by comparing the size of the tubules and glomeruli in children from the age of one day to several years with those in the adult, and he found that the size of the convoluted tubules was almost the same as in the adult; and so with all the other elements, with the exception of the Malpighian bodies, which were smaller. These observations BEUMER has confirmed, and hence it is assumed that the elements most important for the function of the kidney do not increase in size under physiological conditions, and that the common doctrine that physiological growth is essentially a hyperplasia is in the main correct.

IT would be well if the many societies which hold their annual meetings in London this month, having for their object the amelioration of human misery by religious and moral influences, could have their attention strongly directed to the perils of a system of education which consists in the communication of knowledge without light; in brief, forcing the brain, and storing the memory, without cultivating the mind as a whole, or developing the body. After all, it is to the task of implanting new ideas, better principles, more healthy tastes and inclinations, in the young, reformers of all classes must address themselves. The gnarled oak is incapable of any great improvement, the sapling may be trained with success if only the measures adopted are such as will conduce to the development of the plant as a whole, without undue straining upon any of its parts to the neglect of others. The reverse of a wise and well-considered process is, we fear, too generally adopted in the system of education by which the nation is now striving to mend the defect of ignorance in the hope of eradicating the vice of immorality and crime.

There is no more mischievous fallacy than that which assumes the possibility of developing a strong moral nature susceptible of the higher influences and virtues without a healthy brain. We do not assert that it is impossible to produce a being who shall be amenable to social restraints, and so far responsive to appropriate stimuli of hope and fear that the conduct will be comformable to certain standards of conventional morality so long as the surrounding circumstances are propitious to virtue or deterrent of vice; but there will be no strong principle of self-control in the intimate nature, and therefore no security for the continuance in right ways of life when crooked paths seem to offer the greatest attractions or advantages! What the religious teacher, the philanthropist, and the practical moral philosopher, should aim to compass is the improvement of the stock of human nature by the equal development of all those intimate component parts of the organism, mental and physical, which make up the complete and compound being of man. It is "developmental" morality we want—a state or condition of the mind, with its special faculties and senses, which shall dispose it to good rather than evil, and make right the plain and natural bias of the creature instead of wrong. Whatever may be the acquired defects of our nature, however calamitous the inherited and cumulative force of its leanings towards evil, the aims of those who strive for human progress towards a better state of things must be to blight the growth of that which is bad, to train what in the mind may be amenable to education in true courses, and to foster and protect the life of that which bears the impress and exhibits the characteristic features of a higher and purer development. Our protest as physicians, pleading with philanthropists, is against the seeming belief that the end may be secured, and what is longed for gained, by processes which ignore the health of body and brain while they strive sedulously, but, as we are convinced, ineffectually, to cultivate the intellect.

A system of teaching which addresses itself exclusively to the communication of knowledge, without regard to the mental soil in which the seed is sown, or the automatic physical organism with which the mind is inseparably linked in the mystery of life, and through whose functions and fruition the "inner being"—to use a popular phrase—can alone express itself or receive impressions, has no claim to be considered *education*. It educes nothing, but trusts solely to the process of burying facts in the memory. We are not thinking primarily of the way this method acts upon the minds of students. The utter worthlessness of "cram" as a system of technical instruction has been repeatedly exposed in these columns, and the disastrous personal and relative consequences of trusting to such a method faithfully pointed out, but our thoughts are now concentrated on the care of the young. Children of tender years and all ranks are subjected to the same treacherous process, miscalled educating. In the masquerade of the university system adopted in schools pretentiously called "colleges," in the even more absurd travesty of teaching by "lecture" which prevails in the middle-class schools, there is an entire neglect of the needs of personal teaching, and no thought of mind training; least of all is there even the possibility of that *heart* suasion which years ago was a recognised though probably abused element in the training of children. We have changed the system radically, and in our wisdom—or folly—forgotten that which, for want of a better term, we call the "heart," is not blotted out of human nature because its needs are overlooked. Parents and guardians would spare themselves and their little ones, for whose future happiness they are mainly responsible, many regrets if, in time, they remembered that underneath the surface faculties of perception and memory there are whole strata of mental parts and functions which, in fact, form the bases of the character, and in the long-run will play the foremost *rôle* in life, be they never so completely left out of consideration in the early years of training and instruction.

It would not be so important, as it now appears, to speak plainly on the subject of defects in the training of children, if the same bad system which finds acceptance among the middle classes of society were not being forced on the lower, where its effects cannot fail to be especially disastrous. The exclusion of religious teaching from Board schools was a grievous blunder. Better teach a sectarian form of Religion to the children of the humbler classes than none at all. A mind trained—we will not say *educated*—without some practical recognition of the religious instinct cannot be normally—that is, equally and naturally—developed, and is therefore morally and even mentally unsafe. If there be strong intelligence, or a keen sense of the obligations of duty in the individual mind, the defect of early training may be repaired in after-years, but we have no right to assume that this will be the case. Unless Religion in its higher form, and morality as a guiding principle of life, be taught by example, there must, in the majority of instances, be a life-long imperfection in the character of minds trained without religious teaching, and, so to say, launched on a tempestuous sea, without compass, chart, or any means of succour, in the extremity of peril and distress. The practical consequence of such defective training as the State is now giving the children of the poor will be to arm their young minds with new powers, which may be turned to evil account as well as to good. You give the tool, the weapon, but the training necessary to impart precision and safety in its use is withheld. Meanwhile the body, of which the brain is an integral and sympathetic part, is wholly neglected. The policy of national education proceeded on the

principle that half a loaf was better than no bread; but it failed to perceive that the half preferred is, in point of fact, the least important. It would have been possible to develop the mind through the body, but it is not practicable to ensure a healthy physical organism by measures addressed exclusively to the storing of the memory. The body is an apparatus endowed with automatic powers, in which not only society but the individual has a paramount interest. It is no more reasonable to expect improvement in conduct while the training of the body is neglected, than to look for good work from a bad machine. The mind cannot act without the body; and not only physical, but mental and moral processes and performances are dependent on the bodily state. The so-called "principles" of honesty, truth, and virtue are not less closely related to the physical condition than to the so-called "state of mind." Science leaves no room for question or doubt on these points, and it is time they began to obtain that recognition in the councils of the philanthropic societies which their importance demands. It is with the hope that these hints may be accepted by some of the many who will, during the present month, undertake to expound the guiding principles, as well as to enforce the necessity, of religious and moral training for the young, we offer them, rather by way of suggestion than didactic reasoning or argumentative proof.

Annotations.

"Ne quid nimis."

THE UNIVERSITY OF LONDON AND THE MEDICAL BILL.

THE report of the Committee of the University appointed to consider the Medical Bill, which has been adopted by the Senate, has reference almost entirely to that portion of the Bill which relates to the qualification of medical practitioners and the conditions of registration. It contains a curious illustration of the respect necessarily paid to the formal and stereotyped view of legal qualification, even by bodies with the highest possible views of actual qualification. The Committee points out that whereas in the Bill of 1858 it was provided that a diploma or licence from any single examining body entitled the holder of it to be placed on the Register, the fundamental principle of the present Bill is that no person shall be registered unless he has shown himself by examination to be qualified to practise both medicine and surgery. Practically, in its present form, the Bill is not content with requiring a man to be examined in medicine and surgery, but he must be examined by one body in medicine and another in surgery, and pay fees to each. And this is what was so acceptable in the Bill to so many members of the Council, who see nothing so lovely in nature as one-sided medical corporations, and nothing so binding in ethics as the duty of a medical student to become a member of two corporations at least, which from the time of his passing will take no further interest in him. So deeply has this idea got hold of the examining mind of the profession, that this report tells us that though the London University has always required a knowledge of surgery on the part of every candidate for its degree of Bachelor of Medicine, yet for the sake of *formally* conferring a qualification which they always have *actually* conferred, it did lately institute a special degree of Bachelor of Surgery. Like the other bodies, the London University strongly protests against Clause 14, which directs the Medical Council "to frame, revoke, alter, and add rules for regulating any examination of persons desiring to obtain a double qualification, and to determine the subjects thereof, the standard of passing, and the mode of conducting it." We cannot see the propriety of such a protest. If a scheme for a high uniform minimum examination is to be effective, it must include a central body to judge of the uniformity of standard, and it would be difficult to say what body could undertake such a duty so fitly as the General Medical Council, if it were properly constituted.

A NEW PROBLEM FOR STATISTS.

THE committee which is charged with the investigation into the reasons for the present dearth of candidates in the Army Medical Department may be congratulated on having struck out a new and interesting line of inquiry. The replies to the circular addressed to the medical schools and examining bodies were so unanimous in suggesting an increase in pay that a second circular has been issued asking the various medical authorities to give estimates of the average earnings of a doctor in civil practice during the first year after obtaining the necessary diploma, after ten years of practice, after twenty years, at the age of fifty, and again at sixty. The request is so preposterous that we are not quite sure but that the committee is enlivening the tedium of its labours with an elaborate joke. We must say that we should like to see the replies. The picture of a board of examiners, or the staff of a medical school, gravely sitting down to answer these queries, looking back on their own experience, and wondering whether an average should be struck of their own earnings and sent to the committee, or whether they should invite their country friends to supply them with a confidential return, would be intensely ludicrous. Perhaps we might be allowed to suggest that the Medical Directory and the income tax returns be put into requisition, as the only data which are accessible for the solution of the problem. Surely the gentlemen who are entrusted with such an important duty as the inquiry into the means which must be adopted for retrieving the prestige of the Medical Department of the Army have sufficient preliminary knowledge to be able to form an approximate idea of the pay that should be offered to the members of a learned profession for a certain number of years' service. Do they seriously expect any other reply from the various bodies than a polite intimation that they have no special sources of information open to them, and that they would hardly be justified in guessing at the incomes of their professional brethren, and embodying such speculations in a formal return?

THE CONTAGIOUS DISEASES ACTS, 1877.

THE annual report of the Assistant Commissioner of Police on the operation of the Contagious Diseases Acts during the past year has recently been laid before the House of Commons, and contains many features of interest. The common women in the several places subject to the Acts have attended for medical examination with great regularity, and not a single case of excess or violation of duty by the police has been brought to the notice of the superior authorities. 1581 women have been registered for the first time, many coming from unprotected districts. Every effort is made for their reclamation both before and after registration, as is shown by the fact that 183 have been rescued after having been found in bad company and in improper places, and 134 after they had commenced an immoral life and been cautioned by the police, although not yet placed on the register. The number of brothels has been reduced by 22, making a total of 767 since the application of the Acts. The deterrent effect of this legislation is shown by the above figures, and the amount of disease that it has checked may

be roughly guessed at when we find that, out of 623 prostitutes who were known to have come into the several districts from unprotected places, 382, or 61·3 per cent., were found to be diseased on their first medical examination. The difference between those who come from outside districts and those who reside where the Acts are in force is very striking and suggestive, for out of 1670 women who remained on the register on the 31st of December, 1876, only 109, or 6·5 per cent., were found to be diseased when examined in 1877. 1907 have been removed from the register during the year, of whom 937 have left the protected districts, 626 have been restored to their friends, 241 have entered homes, 81 have married, and 22, a very small proportion, have died. The only unsatisfactory element in the return is that, for the first time, the number remaining on the register is in excess of that of the preceding year, there being an increase of 42 on Dec. 31st, 1877, as compared with December, 1876; but notwithstanding this there has been a total decrease of 3028 since the Acts came into operation. The returns from Devonport are remarkable for the very large number of persons who have been checked in their vicious career, for more than half of those who are so returned are from this district. It would be interesting to know whether such results are to be attributed to the greater efficiency of the inspectors, or to other causes, such as objection to examination, &c.

TYPHOID IN MILK.

ANOTHER epidemic of typhoid fever has been traced in a manner which does not admit much room for doubt to contaminated milk, thus again proving how the most essential and wholesome article of diet may become the medium for the diffusion of deadly disease. According to a special report of the medical officer of health for the Moss Side Local Board, Manchester, no less than twenty-seven persons have recently been attacked with typhoid fever. There were besides five cases in the neighbouring districts of Withington and Stretford. All these cases occurred in the first three months of the current year, while during the whole of 1877 but one death from typhoid was registered. Out of the thirty-two cases twenty-nine of the patients received their milk from the same dairy. With two exceptions the ash-pits and drains in connexion with the infected houses were in good order, and among 214 neighbouring households receiving milk from another dairy there was but one household affected, and this exceptional instance is explained by the fact that the inmates were in constant communication with one of the houses already infected. The milk dealer who has been the unwilling cause of all this mischief derived his supply partly from his own cows and partly from a farm some miles distant. Those of his customers who drank the milk from the latter source alone suffered from typhoid, and it appears that there were two deaths from typhoid at the farmhouse during the month of February last. We now come to the final connecting link, and it forcibly illustrates the urgent need of sanitary reform in rural districts. The water-supply of this farm was, as is so often the case, situated close to the ash-pits, and on analysing the water traces of sewage contamination were easily discerned. Under such circumstances it is not surprising that the epidemic soon spread. The water contaminated with the sewage created by typhoid patients had served to wash out the pans, and perhaps even to adulterate the milk sold by this farm, but directly this supply was discontinued the outbreak of typhoid was checked. The history of this epidemic naturally recalls the celebrated outbreak of typhoid in Marylebone, which was also traced to a similar cause. With such instances before us it is impossible to refrain from protesting against the continued carelessness that endangers our milk supply. In how many thousand farms are the ash-pits allowed to contaminate the water-supply? How few persons realise the facility with which sewage matter will percolate through the soil till it has reached the nearest watercourse, where it is taken up and consumed by ready victims of contagion.

THE UNIVERSITY OF OXFORD.

DURING the past week the Report of the University of Oxford Commission has appeared, and the changes that have been suggested are of considerable importance. The Commissioners think that every considerable branch of knowledge should be represented, and that the University, apart from the colleges, should participate in the direction and improvement of the studies of the undergraduates. They approve of many of the present inter-collegiate arrangements, but think that Natural Science and Law are inadequately provided for, and that the stipends of the professors in these subjects are too disproportionate. They propose that certain chairs, such as Greek, Latin, Law, Philosophy, Geometry, Chemistry, should range in value from £700 to £900. Other professorial foundations, especially when there are two chairs for one subject, should be reconstituted or consolidated. New chairs should be established for English language and literature, for pure mathematics, mechanics, and engineering, for Persian, French, Romance or Neo-Latin, and for classical archæology, with stipends of varying values.

The Commissioners appear to have arrived at the conclusion that Oxford is not adapted to become a school of practical medicine, as they suggest that the stipend of the Regius Professor of Medicine should be lowered, and make no provision for such branches of medicine as obstetrics and forensic medicine. On the other hand, they adopt the view that the university is a place where preliminary professional training may well be carried out, and they accordingly recommend the establishment of new readerships in Human and Comparative Anatomy. There can be no question that the last recommendation is a step in the right direction, and it is to be hoped that physiology will receive due recognition, and that young and intelligent men, of whom there are plenty, may be selected to fill the vacant posts.

PRIVATE ROOMS IN HOSPITALS.

"M. D. C.," writing to the *Pall Mall Gazette*, details his pleasant experience of the private rooms provided patients at the London Fever Hospital in the Liverpool-road, Islington, where patients can be received at the shortest notice, and attended either by their own medical practitioner or the hospital staff, the tariff for all expenses being at the rate of three guineas a week. The arrangement is an excellent one, and might with advantage be adopted at the various hospitals. We were the first to suggest, and we have strenuously supported, the proposal to provide establishments which should afford accommodation for persons of the middle classes, allowing the patient or the friends the option of choosing their own medical attendant for the case. If this scheme can be carried out in its simplicity the public advantage will be great. Meanwhile the principle might be asserted, and much good work accomplished, if existing hospital committees could be induced to place a certain portion of their space at the disposal of the public and the profession, on conditions similar to those instituted by the Fever Hospital. Hospitals with space to spare would find important advantages accruing to this use of their means. The value of their services to the population would be brought more directly home to the classes from which contributions are expected, and the monetary help in maintaining an efficient establishment would in itself be no small aid. On public grounds, however, we most strongly urge the consideration

of this proposal. Even those institutions which are crowded, and seem to be in affluent circumstances, might with propriety make the needful addition to their accommodation for the laudable and urgent purpose named.

THE UNIVERSITY OF MANCHESTER.

THE Birmingham Town Council has resolved to present a petition to the Queen in support of the claims of Owens College to become a new university, to be called the University of Manchester, whilst the Parliamentary Committee of the Liverpool Town Council has drawn up a memorial against the granting of the proposed charter to Owens College. The latter body urges the Privy Council not to grant a charter to Owens College and so convert it into a university by itself, but to grant powers to a new corporation to form a university, which might include Owens College, and such other institutions as may now or hereafter be able to fulfil the conditions of incorporation. Objection is also taken to any name which is merely local. Liverpool, therefore, intends to put forward its claims to be included in a northern university, as Leeds has already done. If a combination be effected between the teaching institutions in these towns, a northern university might perhaps be formed, leaving the direction of the education of the metropolis and the south of England to the University of London and the older universities. The effect of such a secession among the colleges affiliated to the University of London would be to materially weaken this body, and we suspect that stronger reasons than have yet been put forward would have to be found in order to persuade the lords of the Privy Council that such a step was yet necessary or advisable. The most powerful arguments adduced by the professors of Owens College in support of their claims are purely local ones, and if these are thrown over so as to conciliate Liverpool and Leeds, we fail to see why Owens College might not remain in affiliation to the London University as at present. If Owens College has, in order to smooth down local jealousies, to join with several other bodies, no one of which has the slightest pretension as yet to be considered a well-appointed college with a complete teaching staff, we would strongly recommend it to postpone its efforts, for the formation of such a university would do much more harm than good to the cause of education.

BILIARY CALCULI AND THEIR PATHOLOGICAL RELATIONS.

DR. BENEKE, of Marburg, in a paper recently published in the *Deutsche Archiv für Klinische Medicin*, observes that the formation of gall-stones may be due to two causes: either there may be a relatively great increase in the amount of cholesterin formed in the liver, so that it appears in the gall-bladder in the same way that urate of soda or uric acid appears in concentrated urine; or there is a deficiency in the amount of the biliary salts holding it in solution, just as the uric acid salts or crystals of uric acid are deposited in the urinary passages when there is a deficiency of soda or an excess of phosphoric acid. Beneke obtained from the liver of a powerful and apparently healthy man, thirty years of age, who died from a broken neck, 4·07 grm. (62·8 grains) of cholesterin; from the nutmeg liver of a man aged twenty-seven, who died from encysted pleuritic exudation, caries olecrani, and pyæmia, 5·153 grm. (79·56 grains); from the amyloid liver of a man aged forty, who died from chronic pneumonia, pleuritic exudation, amyloid liver and spleen, 5·078 grm. (78·4 grains); and from the fatty livers of three subjects dying respectively from caseous pneumonia, suppurative meningitis after compound fracture of the skull in a drunkard, and phthisis, 1·65 grm., 1·36 grm., and 0·263 grm. The conclusions he draws from the examination of no less than 375 subjects are:—1. That the presence of gall-stones coincides in the majority of cases (about 70 per cent.) with the presence of atheromatous degeneration of the arteries. 2. The atheromatous degeneration of arteries (without gall-stones) is much more common than the occurrence of gall-stones. 3. Gall-stones are more frequently met with in females than in males, but degeneration of arteries is as common in one sex as in the other. 4. The occurrence of gall-stones is usually observed at an earlier period of life (from twenty upwards) than atheromatous degeneration of arteries. 5. Gall-stones are relatively more frequent in carcinoma and nervous arrest of secretion, or congestion of the liver. 6. The presence of gall-stones and of atheromatous degeneration of arteries is relatively frequently accompanied by abundant development of fat. The small quantity of cholesterin in fatty livers is remarkable, but the deduction cannot be drawn that the formation of fat is originally due to defective formation of chlosterin. On the contrary, we may easily conceive that the non-azotised and highly carbonised cholesterin forms a mother substance for the formation of the fatty acids, and if it be formed in large quantities it may be the source of the excessive deposit of fat. Hence fatty livers yield only a small amount of cholesterin. Beneke refers to the large quantity of fat found in the omentum and elsewhere in phthisical patients, while the adipose tissue beneath the skin has almost entirely disappeared. He observes that the formation of fat in the body is associated with considerable diminution in the quantity of blood—that is to say, of oxidisable material. In like manner the formation of fat and the conditions favourable to the development of tubercle go hand in hand, since caries of the feet, hip, or vertebræ compel quiescence. Even if these conditions do not stand in direct etiological connexion with the processes of disease, they at least favour their development.

TWENTY-SIX IN A GRAVE.

THE Wandsworth District Board of Works seems destined to elicit public opprobrium. We have already had cause to complain of the gigantic dust-heap which disfigures Wandsworth-common, and regret to note that no measures have yet been adopted for its removal. Perhaps, now, however, that the matter has inspired one of our comic papers with satirical verses on "Uncommon Preservation," the local authorities will be impressed with a due sense of the criticisms and ridicule to which they are exposed. But a more serious question is now brought before the public. Dr. P. H. Holland, medical inspector of burial-grounds, held an inquiry into the sanitary condition of the Battersea cemetery, which brought to light some startling facts. It appears that, prior to 1875, as many as twenty-six persons were often buried in one grave, which had of necessity to be dug so deep down that it went below the drainage of the cemetery. This abominable practice was stopped by an order from the Home Office; but since then it has been the habit to bury four persons in one grave, though the Home Office regulations stipulate that only one body shall be interred in one grave, which shall then be closed for fourteen years. By this evasion of sanitary laws it has been possible to bury upwards of two hundred persons per month in this small cemetery; indeed, during the last six months of 1876, there were 808 interments, of which 573 were in the common ground, where the nuisance is more especially objectionable. Even the medical officer of health of the district, who remained indifferent to the complaints relating to the dust-heap, was obliged publicly to recognise that residence in the neighbourhood of the cemetery "was likely to cause susceptibility to disease." Out of thirty-three deaths that occurred last year in the immediate vicinity, the majority were from premature childbirth, and three were due to zymotic causes. In future, however, the results will be

much more serious unless the Home Office rules are strictly observed, and even this will not prevent the dangers that must arise from the already crowded condition of the cemetery. It is not long since Wandsworth was visited with a general epidemic of scarlet fever, which should have served as a warning.

THE MADRAS UNIVERSITY: CONVOCATION.

THE recent meeting of Convocation of the Madras University was held in the New Senate House, a gift to the university of Mr. Chisholm, and to be ranked in future, we understand, as one of the most beautiful of modern buildings in India. Indeed, the local journals seem to be almost at a loss for a sufficiency of epithets with which to do justice to the architectural merits of the building. Dr. Furnell, the principal of the Medical College, was the public orator on the occasion, and we judge from some of his observations that the selection of a physician for the duty was quite exceptional in the history of the university. Dr. Furnell, in his oration, addressed himself chiefly to the indisposition shown by the Brahmins to enter upon medical studies, and he adduced some arguments to show that the present distaste of the Brahmins to the study of physic was inconsistent with the teaching of the ancient Brahminic writers on the subject. He urged upon his native hearers the desirability of the pursuit of medicine as a profession, and the advantages presented by it. While, however, Dr. Furnell attributed much of the indisposition of the Brahmins to study medicine to modern corruptions or decadence of the Brahmic faith, he intimated that the unhonoured position of medicine in the State exercised also a deterrent effect. Medicine was the one profession having intimate relations with the State in India, which, as a rule, whatever the services it might render, received no honorary recognition. If the present sanitary commissioner for the Madras Presidency had contributed to kill but a tithe of the many thousand lives which have been saved by his prescient sagacity during the famine still scarcely ended, he would have at once been ennobled. Dr. Cornish is still undecorated. This want of due recognition of medical service by the State, Dr. Furnell intimates, exercises a prejudicial effect on the native mind in respect to the study of medicine.

His Grace the Governor and the Ladies Grenville were present at the Convocation.

TYPHUS IN RUSSIA AND TURKEY.

THE later news of the progress of typhus in Russia and Turkey are so contradictory as to make it evident that while on the one hand some journalists are disposed to represent the facts in the blackest hues, others are disposed to whitewash them. As no returns are made public relating to the disease as it affects either the Russian or the Turkish forces, only the vaguest estimates can be formed of its extent of prevalence among them. Of its existence in both armies there is no doubt, and enough is known of the condition of the troops to make it clear that typhus must be a very ugly malady to have among them. From Sistovo, so late as the 18th April, we have information of the physical state of the Russian troops there being eminently unsatisfactory, and of the hospitals both there and at Nikopol being overcrowded, while typhus was raging. The disease, moreover, was reported, about the middle of April, to be still prevalent among the Russian forces before Erzeroum. In the Caucasus, according to the latest reports, there was some diminution of the prevalence of typhus both among the military and the civil population.

In Bucharest, Turna Margurelle, Rustchuk, and Philippopolis, typhus is more or less prevalent among the civil population, also in Constantinople, and the disease is now extending to places on the Bosphorus beyond the limits of the city. Therapeia, the paradise of ambassadors to the Porte, has been invaded, and the spring movement of the ambassadors from the city to their summer palaces for the moment put a stop to.

From the 1st to the 12th April, of 772 deaths from all causes reported in St. Petersburg, 221 were assigned to typhus. A committee of the Public Health Society, under the presidency of Dr. Zdekauer, and consisting of M. Frobet, inspector of the hospital establishments of the Empress; Baron Maydall, inspector of the health-service of the city; Professors Eichwald, Borodine, and Dobroslavine, the Physicians-in-Chief of the Oboukhow, Alexander, and Kalaikine; Mr. Berthenson, Physician-in-Chief to the hospital Rojdestvenski; and M. Hubner, secretary of the Public Health Society, have been considering and advising upon the measures to be taken to arrest the epidemic. The Medical Council has also reported upon measures of disinfection.

AN ORDER OF THE RED CROSS.

A MOST graceful recognition of the services of the Russian Red Cross Society in the recent war has been made by the Emperor of Russia in the institution of an Order of the Red Cross. The ukase which makes known the establishment of this order is dated the 27th Feb., 1878, and sets forth that, in consideration of the useful activity of the ladies who have devoted themselves, in the exercise of a lofty Christian duty, to solace the sick and wounded soldiers, the Emperor judges it opportune to institute an "Order of the Red Cross," to be given in recompense to those who have particularly distinguished themselves in the performance of this duty, and by the eminence of their moral qualities.

The order consists of two classes. The first class is represented by a red cross in enamel, surrounded by a circle in gold, on which are inscribed the words: "For the protection of the sick and wounded soldiers." The second class is represented by a similar cross in enamel, surrounded by a circle of silver having a like inscription. The orders are directed to be worn on the left breast, suspended by a ribbon of the Order of St. Alexander Nevsky.

GLOBULAR RICHNESS OF THE BLOOD.

IN a memoir on this subject Drs. E. G. Cutler and E. H. Bradford give the results of a series of experiments and researches they have made to determine the influence of iron and other tonics on the globular richness of the blood in health and disease. The method of examination of the globules they adopted was that of M. Malassez. The first series of experiments were made with iron in various forms—as the ferrum redactum, the tinctura ferri chloridi, Rabuteau's dragées of the protochloride of iron—on two *healthy* subjects. In both cases the only conclusion that could be arrived at was that *no* increase in the globular richness could be attributed to the use of iron. On the other hand, when iron was given to *anæmic* patients an increase in the number of the red corpuscles invariably took place. Secondly: in regard to cod-liver oil, it was found that in the healthy subject it caused an increase in the number of the red corpuscles and a slight increase in the white. In certain pathological conditions this seems to be also the case if the medicine is well borne. If, however, the morbid process be active and the appetite disturbed, the medicine does not appear to check the consequent anæmia. Lastly: in regard to the liquor potassæ arsenitis, it was found that when given in health it caused a progressive decrease in the number of red and white corpuscles, that of the latter being most marked. In simple anæmia, on the contrary, there seems to be an increase at first of both red and white corpuscles. After a certain point had been attained, however, there was a steady

diminution of both. In a case of leucocythæmia there was a decrease in both red and white corpuscles, the decrease of the latter being very marked.

HOUSE-CONSTRUCTION IN ITS SANITARY ASPECTS.

DR. BALBIRNIE'S lecture at the Society of Arts, on the 1st inst., was devoted to the reforms in house-construction demanded by sanitary science. He dealt in succession with the questions of the plan proper of a dwelling-house and its appurtenances, or the imperative domestic conveniences in a healthful and comfortable domicile for any class of tenants; the thorough ventilation of houses without cold draughts; the heating of houses without expensive or easily deranged mechanism; and the cooling of houses without risk or trouble in hot seasons and climates. The last question is a new one not hitherto considered in the arrangement of houses in this country. On each of the questions mentioned Dr. Balbirnie entered into considerable detail, illustrating his observations by models and numerous drawings. The lecture throughout was rich in suggestions, but these cannot be justly dealt with apart from the details. At the present period, when the sudden outburst of heat has followed upon bleak easterly winds, we are in a position to appreciate keenly the comfort which should accrue from houses built and arranged as Dr. Balbirnie would have them. Let us take it that his lecture is another indication of the good time coming in respect to house construction. We trust that the lecture will be published in a separate form, illustrated sufficiently to make clear Dr. Balbirnie's principles.

THE PARIS EXHIBITION.

ON Wednesday last the Exhibition was opened at Paris. The ceremonial was imposing. The gathering included most of the notabilities who were expected to take part in the inaugural proceedings, His Royal Highness the Prince of Wales occupying a prominent position in the group of personages. The department representing British skill and industry is important. It contains many objects of especial interest to the medical profession. These we hope in due time to notice. For the present it must suffice to record our great satisfaction with the result evidently secured, and the light in which the enterprise of the United Kingdom is likely to be represented.

INQUEST OR NO INQUEST.

THE importance of a clearer definition of the duties of coroners in the exercise of their discretion as to the necessity for holding inquests is every day becoming more apparent. The striking want of uniformity in the exercise of this discretion detracts from the usefulness and dignity of the office. For instance, it is impossible that the coroner for Manchester and the coroner for Sheffield can both be right, the one in holding inquests in nine, and the other in less than three per cent. of the deaths registered. During last week in Sheffield a man known to be given to intemperance, and to have suffered from heart disease, was found dead in bed. The registrar, in accordance with his instructions, brought the case under the notice of the coroner, previously to registering the death. The coroner, however, decided that it was unnecessary to hold an inquest, and the death was registered without any satisfactory evidence of its cause, which was described in the register as "Found dead, disease of heart." In Manchester such a case would probably have been, and as it appears to us very properly, the subject of an inquest. Why, then, should it be necessary in Sheffield to register such a death without the production of any satisfactory evidence of its cause? Such an interpretation of the duties of a coroner affords dangerous facilities for the concealment of negligence if not of actual crime. It is not a little relevant to note, in connexion with this disparity in the proportions of inquests held, that in Sheffield, during last quarter, 6·8 per cent. of the causes of death were uncertified, while in Manchester the proportion did not exceed 3·4 per cent.

ACTING AT THE OPERA.

THE histrionic phase of opera is not generally a strong feature, although it is undoubtedly susceptible of development. Such works as *Dinorah* and *La Traviata* afford ample scope for the delineation of states of mind especially interesting to students of health and disease. In *Dinorah* there is to be depicted a condition of insanity produced by shock acting on a peculiar temperment, which would give new and piquant force to the title *rôle* if only any actress sustaining the character of "Dinorah" could be induced to bestow adequate attention on the psychological aspect of the part. We commend the subject to Mdlle. Marie Marimon, who has been singing the music of *Dinorah* at Her Majesty's. Mr. Mapleson is to be congratulated on the acquisition of services like those rendered by a *débûtanté*, Mdlle. Minnie Hauk. To highly respectable power as a singer she adds that of skilful personation of character. Her performance of the last scene in *La Traviata* is good. The rendering of the revival of strength just before the death is a little exaggerated in the display of muscular effort, but the subsequent exhaustion and final collapse are rendered with realistic truth.

TUBERCLE IN MUSCLE.

INSTANCES of the occurrence of tubercular deposits in the voluntary muscles are so rare that considerable interest attaches to an example recorded in a recent number of Virchow's *Archiv*, by Dr. F. Marchand. The condition was found in the body of a young man, aged twenty-four years, who had suffered from acute hip-joint disease. The muscles of the hip were pale-red, translucent, and œdematous, and, on close examination, those in the neighbourhood of the joint were seen to contain numerous roundish, hard nodules, about the size of a mustard-seed. Most of these were yellow and caseous; some, however, were smaller, grey, and translucent, with a yellow opaque centre. They were scattered thickly throughout the substance of the muscles, but were somewhat more abundant just beneath the surface and also in the neighbourhood of the insertion. A few were of larger size, and evidently consisted of several smaller ones grouped together. These were found especially in the obturator internus. The tubercles occurred not only in the immediate neighbourhood of the joint, but also at a distance, as in the substance of the gluteus minimus. A secondary general tuberculosis appeared also to have occurred; for a chain of enlarged and hard glands extended up the pelvis to the lumbar spine, and there was a recent deposit of tubercle in the lungs and spleen. A second case is mentioned, in which also the muscles of the pelvis and hip contained numerous deposits of tubercle.

THE RECOGNITION OF FOREIGN DIPLOMAS.

WE have long seen the inevitableness of some recognition of foreign diplomas. Long before last year our English brethren practising in the South of France by the grace of the French Government, were threatened with French legislation that would compel them to pass an examination, or to cease practising in that country. It has for years appeared to us to be a matter of international advantage, as well as international grace, that countries competing in the honourable race of science should recognise each other's diplomas. We are, accordingly, gratified to see a provision in the Medical Bill for the registration of colonial or foreign degrees; the Medical Council is to judge whether the

diploma is such as entitles the holder to practise in the country in which it was granted, and whether it represents a degree of knowledge equal to that required in this country to obtain a qualification entitling to registration. At the same time it is important that there be no undue laxity in the recognition of foreign practitioners, and we are very much disposed to agree with a correspondent, who objects strongly to the registration of a foreigner without a diploma from his own country. This would be carrying liberality to excess. If a man's own country does not give him a diploma he can scarcely complain of another country refusing to register him as if he had a diploma.

THE SCOTCH CORPORATIONS AND THE MEDICAL BILL.

OUR later news confirms that which we were able to give last week, that the Corporations of Scotland, in response to some communication, not necessarily formal, advising the conjunction of the Scotch bodies in a way similar to that of the English, and suggesting that if this is not done voluntarily it will be done by the insertion of a compulsory clause, have determined to do nothing, on the ground that there is no time, before the Bill goes into Committee, to form a scheme which, to be complete, must include the universities. We are glad to notice that our Scotch friends are beginning to see that a conjoint scheme, to be complete, must include universities and corporations.

THE LONDON SMALL-POX EPIDEMIC.

IF the present small-pox epidemic in London is to follow the course of previous epidemics it will soon begin to show a decline, which usually commences early in May. The last Weekly Return of the Registrar-General shows that in the week ending 27th ult. the fatal cases, which had steadily increased from 48 to 80 in the four previous weeks, declined again to 63. Of these, 40 occurred in the Metropolitan Asylum Hospitals, 3 in the Highgate Small-pox Hospital, 1 in Westminster Hospital, 1 in Bethnal-green Workhouse, 1 in a barge off Millbank, and 17 in private dwelling-houses. Islington, Bethnal-green, Pancras, and Camberwell showed the largest number of fatal cases. In nineteen cases the medical certificates gave no information as to vaccination, ten of which occurred in private practice.

The number of small-pox cases under treatment in the Metropolitan Asylum Hospitals, which had been 785 and 854 at the end of the two preceding weeks, declined to 824 on Saturday, 27th ult. The number of new cases admitted during the week was 191, against 260 and 228 in the two previous weeks. The Small-pox Hospital in Highgate contained 62 patients on Saturday last, 16 new cases having been admitted during the week.

INFARCTION OF THE HEART.

CASES of acute and extensive infarction of the wall of the heart are not common, and one lately published by M. Laveran is of interest on account of the symptoms which resulted from the accident, and which were carefully observed for a fortnight before death. The patient was a man forty-seven years of age, and the anatomical change consisted in an area of softening, three or four centimetres across, in the wall of the left ventricle. The softening was so complete as to constitute an actual abscess, extending between the endocardium and pericardium, neither of which, however, was perforated. The coronary arteries were atheromatous, and the anterior branch, going to the softened spot, was completely obliterated. The ventricle was much dilated and distended with blood. The first symptoms, a fortnight before death, were pain in the left side, and rapidly increasing dyspnœa, with slight hæmoptysis. The heart's action was excited, frequent, and irregular. The cardiac dulness was increased, the sounds distant but without murmur. Respiration was rapid, the lungs normal, the extremities dusky. The difficulty of breathing became most intense, and prevented sleep. The heart-sounds became inaudible. Pericarditis was diagnosed, and antimony administered. The symptoms lessened considerably in severity, so that the patient was able, at the end of a week, to sit up. They recurred, however, in a day or two with renewed violence, and a large hæmorrhage from the lungs occurred without relief to the dyspnœa, which continued until death, a few days later. Many foci of pulmonary apoplexy were found after death.

HARVEY TERCENTENARY MEMORIAL FUND.

THE contributions made to this fund during the past week amount to almost £100, and include the following subscriptions:—The Town Council of Folkestone, 50 guineas; the Obstetrical Society of London, 25 guineas; and the North of England Branch of the British Medical Association, 5 guineas.

THE fourth annual meeting of the North-Western Association of Medical Officers of Health was held a short time back in Manchester. It appeared from the report that, in accordance with the recommendation of a special committee, the Association had submitted a memorial to the Local Government Board praying that every medical practitioner in attendance on a case of infectious disease should be required to advise the head of the family of the nature of such disease, that the persons so advised should be required to report to the medical officer of health for the district, and that the sanitary authorities be empowered to close all day schools during the prevalence of infectious disease, and to prohibit the attendance at school of children from infected houses. Dr. Vernon, of Southport, was appointed president of the Association for the ensuing year.

THE King and Queen's College of Physicians in Ireland, in reply to the War Office Circular addressed to the medical schools, has named as "the specific causes which seem most materially to deter candidates from coming forward to compete for the vacancies in the department—1. The recent short-service system, by which a medical officer is liable to compulsory retirement at the end of the ten years' service. 2. The abolition of the regimental system. 3. The disadvantage at which the medical officer is placed with respect to sick and ordinary leave as compared with other officers. 4. The feeling of distrust produced by frequent change in Warrants and Regulations has caused a reluctance on the part of students of the higher class to enter a service in which they are unable to calculate 'with certainty' on their future career and treatment."

THE medical superintendent of the Lunatic Hospital at Nottingham reports the daily average number of patients resident during 1877 as sixty-five. Eleven cases (seven males and four females) have been discharged during the year, and five died (two males and three females). Of the discharges, seven recovered, two were relieved, and two had not improved. Dr. Tate observes: "The recoveries, as usual, were in those cases in which early removal to the hospital had been resorted to. Establishments of medium size, doing the work of 'hospitals' for the cure of the insane, are the agencies by which the best results are likely to be attained." It is therefore a matter of regret that, of the sixty-seven patients remaining in the institution at the close of 1877, no less than fifty-nine are cases of which

the medical superintendent says, "I fear there is no prospect of recovery." Dr. Tate takes a bold and common-sense view of the inexpediency of enlarging the building, unless sufficient land can be secured to ensure out-door accommodation for an increased number of patients. We venture to think the wise policy would be to develop the resources of the hospital as a curative establishment, rather than to convert it into a place of refuge for the incurably insane. The sphere of medical usefulness occupied by institutions of which this is a typical specimen should be jealously guarded; it is worthy of the warmest public approval and support.

THERE were 1661 deaths registered in London last week, including 136 from whooping-cough, 63 from small-pox, 38 from measles, 22 from scarlet fever, 11 from diphtheria, 24 from different forms of fever, and 11 from diarrhœa. The deaths from the principal zymotic diseases showed an excess of 68 over the average rate for the corresponding period. The fatality resulting from maladies of the respiratory organs exhibited a decline on previous returns, 345 deaths being recorded under this heading.

SOME dissatisfaction appears to be felt by graduates of the Aberdeen University with regard to the manner in which the examinations in Clinical Surgery have been conducted. A protest, signed by the whole of the gentlemen who passed at the last examination has been lodged with the Senatus, complaining that the questions put were unsatisfactory as a test of real knowledge, and suggesting that it would be well that in future a greater variety of "cases" be given, and more ground covered in the questions.

THE Amateur Choral Society of St. Petersburg recently gave a public concert, the proceeds of which are to be devoted to founding a fund for the relief of the Russian soldiers who have lost their sight in the recent war. There would appear to have been considerable prevalence of ophthalmia among the forces engaged in the Balkans during the winter, and many soldiers lost their sight from the disease.

THE next examination for the Medical Department of the Navy will be held on the 27th inst. Successful candidates will not, on this occasion, it is understood, be required to pass through the usual training at Netley, but will be sent at once on active service afloat. The course of special instruction is to be deferred until the exigencies of the service admit of attendance at the training school.

THE Admiralty have forwarded to Captain Roche, of the Coast Guard, who has paid to Dr. Williamson, the sum of £3, a donation to the Bonchurch Cottage Hospital, the institution which rendered such important service to the survivors from the *Eurydice*.

IT is gratifying to learn that Mile-end is now provided with a mortuary. The building is situated in the grounds of the workhouse, and is a useful exchange for the small shed that had heretofore been employed as a temporary receptacle for the dead.

THE Russian *Gazette of St. Petersbury* states that in the department of the Minister of War the number of vacancies for medical men is reckoned at 650, the army being on a war-footing, and 250 if on a peace-footing.

WE understand that a meeting of the profession, to consider the Medical Bill before Parliament, will be held shortly in London.

THE ROYAL ACADEMY OF ARTS.

THERE is but little of what may be considered especially medical interest in the exhibition of this the most popular of all Academies. In the central hall is a model of a marble statue, by Mr. Bruce Joy, of the late renowned clinical physician, Robert Graves, which has been erected in the College of Physicians, Dublin. It is a full length, dignified in attitude, and pleasing in treatment. Near it is a life-size model for a colossal statue of the late Sir J. Cordy Burrows, of Brighton. In the sculpture gallery is a terracotta bust, by Mr. H. P. M'Carthy, of Dr. Robert Barnes, whose well-known physiognomy is unmistakably portrayed. In the vestibule some equally familiar faces are turned to us with that extremely melancholy look which characterises, it is hard to say why, every portrait which is taken "in three planes." There is Mr. Simon, C.B., a good likeness in marble by Woolner, who contributes likewise a marble bust presenting the striking features of Professor Huxley, not a trait of which the sculptor has ventured to mitigate. And the like may be said of a bust of Dr. Carpenter, C.B., in which the same spirit of a ruthless adherence to truth, no matter what the consequences, is evident. So much for medical portraiture. The profession is not strongly represented in its capacity for amateur art. Sir Henry Thompson contributes an oil painting, "Chapel on the Right of High Altar, St. Mark's, Venice," which is a pleasant record of the combination of gloom and grandeur to be found in the cathedral, but does not present any striking novelty in treatment. Mr. Lumsden Propert has a very large etching, "The Shipwreck—after J. M. W. Turner, R.A." This is a daring and interesting work, representing an enormous expenditure of labour on the part of an able artist. But we venture to doubt whether the result represents an adequate return for the outlay. Surely the mezzotint engraving, by Charles Turner, of the same subject is very superior to it. We must protest, indeed, against the etching needle, which has a perfectly distinct field of its own, being diverted from this, and made to give what is, after all, but a feeble imitation of the work proper to the graver. Dr. Evershed, we see from the catalogue, has a painting, "A Study from Life," but we unfortunately missed it. He sends no etching this year.

Of the exhibition in general it would be impertinent in us to attempt to give a description in the few lines which are all we can afford on the subject. There is much, of course, to interest one in it, and not a little, perhaps, to make one sad. It is painful, for example, to find so many evidences as we do of men who in their early works have carried us by storm and rapidly reached a point at which they have, as it were, crystallised, become "set," hard and unyielding, showing the same form essentially year after year. The crystals may be massed a little differently, but the crystalline form is the same, and it does not tend to become more refined. As a rule, there seems to us a strange lack of invention as regards the subjects of *genre* paintings. The most ambitious attempt in this respect is by Mr. Frith, who sends a series of five stages of life—"College," "Ascot," "Arrest," "Struggles," "The End"—which represent, step by step, the career of a gambler and bookmaker on the turf. In the last act he is locking the door, preliminary to blowing his brains out with a pistol, which, fortunately for society, despite the evidences of the most squalid poverty in the garret which he occupies, he has found means to purchase. Mr. Millais has painted "The Princes in the Tower"—two fair-haired lads descending the stone-steps of their prison, hand in hand, their little faces showing terror, and the black shadow of the coming murderer evident on the wall. Powerful, but painful. It is a relief to turn to this master's landscape, a view up a mountain stream in Scotland, as beautiful as it is possible to desire. Vicat Cole gives us also a specimen of his best work in "A Showery Day," and Peter Graham has pictured cloud-shadows chasing each other across a mountain-side, in a way which, we venture to think, has never been equalled.

Altogether we are disposed to think that landscape is the strongest feature of the exhibition this year. There are beautiful peeps at the Mediterranean, by Mr. J. C. Hook, who seems as much at home as ever he was in Devonshire. Mr. Yeames has happily illustrated an incident of the Long Parliament, a boy Cavalier being questioned by some Roundheads as to when he last saw his father. Mr. Calderon, too, has gone to the same historical period, and gives us a couple of nuns being taken away from a nunnery, which the soldiers have orders to sack. Mr. Herkomer's "Evening in the Westminster Union" is a fine study of the female inmates of a workhouse ward, admirably painted and full of feeling. To our mind, however, the finest subject-picture of the year is "The 'première Communion,' Dieppe," by P. R. Morris—a large canvas representing a procession of girls in white traversing a quay singing, the parents and others looking on with interest. Of smaller works, "The Postbag," by Mr. Marcus Stone, is a delightful specimen of exquisite manipulation, and most pleasing, though simple, in subject. Two old fogies, in a sort of Queen Anne costume, are frowning over their letters, whilst a charming girl marches away to read in quiet, by the river side, the priceless sheet which has just arrived from *Him!* Would that we could go on with our reminiscences, but our space fails. One word, however, for "Convalescent: at the Children's Hospital, Highgate," by Henry Woods—a faithful representation of three little ones in all the delight of returning health, and very pleasant, because it is faithful and free from vulgarity. "A Girl Reading," by Perugini, is another picture that is pleasant to look upon; the soft colour of the fair girl harmonising deliciously with the orange shrubs and fruit of the background. Then there are several of F. Leighton's, which would need all our space to describe; and works by Brett, Heywood Hardy, Gow, Archer, Tadema, and a host of others, which the inexorable demands of space preclude us from even naming.

DR. RICHARDSON ON ABSTINENCE FROM ALCOHOL IN HEALTH AND DISEASE.

DR. RICHARDSON delivered an address on this subject before the members of the Hunterian Society, in the theatre of the London Institution, on Wednesday, April 24th. In the opening passages of his lecture he traced out the physiological action of the different representatives of the alcohol family, and showed that the action of each was the same, subject only to modifications due to the relative specific weight, vapour-density, boiling-point, and solubility of each. He next drew a comparison between the action of the alcohols and ethylic ether when both are taken into the body in the same manner, and again indicated that the phenomena are the same, modified only in duration of action by the difference of vapour-density and other physical qualities. To this rule there was one exception—namely, that when the heavier alcohols, the butylic and amylic, are made to act on the body so as to produce a distinct effect, they cause tremor of the muscles, a condition resembling delirium tremens, which condition seems to be peculiar to their action, and to separate them from the methylic and ethylic alcohols and from other in respect to physiological action. The analogy of action between the alcohols gives to them the same position in respect to their influence on life. If one of them was a food, they all were; and the heavier ones ought to be the most substantial. In fact, they are none of them foods, but agents which powerfully affect the body by modifying natural function and setting up a condition of life distinct from the natural.

The author next proceeded to point out the phenomena induced by alcohol, dividing these into four stages: the first stage, in which the excitement, vascular and nervous, is prominent; the second, in which there is some slight failure of power, muscular, nervous, and mental; the third in which there is great failure of these powers, with reduction of animal temperature; and the fourth in which there is complete narcosis, with great reduction of temperature. Turning now to the use of alcohol in health, he asked in which of these stages of action does the use of the agent prove of value? It could only be thought of as useful in the first stage, and why then? What was there in the condition of a person so influenced that was better than the natural condition? What object was attained by the excitement and the corresponding after-depression?

In the next part of his paper Dr. Richardson explained that as there are four acute individual stages of alcoholic action, so amongst those who habitually indulge in alcohol there are four chronic or collective stages. There are classes of people, that is to say, who present from day to day one or other of those stages until the change becomes a set part of their unnatural lives. It would be folly to suppose that anyone would attempt to defend the condition of the persons who pass their lives under the shadows of the second, third, or fourth stages of alcohol. But what of those who are so firmly and timely moderate that they never pass into a state of change beyond the first stage? They may be within a shade of health, but they are not healthy, and the contrast between them and the trained abstainer is in the most striking degree in favour of the latter.

The condition of health of those who abstain was next examined. Some abstainers were so from birth, and some were abstainers of many years' standing. Both of these were representatives of the best class. Others were abstainers of short duration, and were less favourably placed in comparison. Others, still probationers, were not by fixed habit abstainers, and these were much less favourably placed; they furnish those who, being anxious to abstain, are too nervous to carry out their own intentions, and who seek, not unfrequently, the protection of the professors of medicine, in order that they may return to the stimulant on the doctor's recommendation. These persons do great harm to the cause of abstinence; they attribute symptoms which were common to them when they partook of wine, to abstinence, and are ever unsettled and uncertain.

In considering the position of alcohol in relation to disease, Dr. Richardson said it had now been shown, on a sufficiently large scale to admit of a fair argument, that disease, using the term in its widest sense, can be treated without the use of alcohol; but he did not wish to consider the matter in this exclusive way. Alcohol, in the character of a remedy, belongs to him as a physician; he has just as much right to it as to opium or chloral, if he knows how to use it properly—if, that is to say, its true physiological action and its true therapeutical application be understood. When, however, he speaks of alcohol in this sense, he speaks of it as a distinctive thing—not as of wines, or beers, or stouts, or spirits, which may hold any degree of alcohol, and a number of other substances more or less useful or more or less hurtful, but as a thing which can be understood, and which is the chief ingredient for good or for evil in all our stimulating drinks. In this mode of inquiry he has for three years past considered the value of alcohol in disease. He has never in that time prescribed the smallest quantity of wine or other drink holding alcohol as its base; but when he has wanted alcohol as a remedy, or has thought he wanted it, he has prescribed it, as he would any other remedial agent. Used in this manner alcohol comes in the clearest way into its true therapeutical position. It is an antispasmodic, to classify it under an old term; it is a paralyser of the organic muscular fibre, and, carried to an excess, carried beyond the first stage of its action, it is a reducer of animal temperature.

In administering alcohol as a medicine, the four stages or degrees of its action must always be borne in mind; but it is not often we should ever have to push its use to the extremest degree. It is true that if we had no better general anæsthetic we might be inclined to induce the third or fourth degree of narcotism by means of it for making operations painless. It is true that if we had no better relaxant of muscular fibre we might be led to administer it to the third or fourth degree in order to reduce a dislocation; or in instances of spasm, such as asthma, colic, tetanus, or angina pectoris, we might, in the absence of a more active remedy, resort to it in order to produce relaxation. Fortunately we have at command for all these purposes chloroform, ether, nitrite of amyl, and other similar active remedies. To these, alcohol may serve now and then as an adjuvant; it can, when they are in use, play no better part, and this is the experience of it in those cases where it is administered in its purest form, and under the most careful attention to the effect it produces.

After the author first made the direct observation that

alcohol reduces the animal temperature, it occurred to him naturally, and it has occurred to others, that this agent might be employed as a febrifuge, for the purpose of reducing febrile heat. He gave to it its full credit in this application of it, and had tried its value with every fairness. The result he arrived at in this respect is that, carried to the degree of inducing a fully developed second stage of its action, alcohol does reduce febrile heat, and that carried into the third stage, it reduces that heat to a marked extent; but between the production of that effect and the period of first administration the excitement is so intense, the motion of the heart is so accelerated, the delirium induced is so troublesome, the disorder to the digestion so definitive, there is an actual risk in the use; while the after-effects are of such extreme character in the way of depression that he for one would far rather be left to no treatment at all for pyrexia than accept alcohol as the remedy, however skilfully it might be administered.

By many it is held that in some instances alcohol quickens the nutritive processes. When its position is correctly understood, there is an argument for this hypothesis. By its paralysing influence on the vessels of the minute circulation, alcohol quickens the course of the blood and brings more blood into the peripheral surfaces. Some benefit may result from this use. A few years ago, when the author was experimenting with the vapour of nitrite of amyl, some rabbits suffering from an extensive squamous disease, like lepra, were brought to him as pathological curiosities. He placed them one by one in a hutch, the atmosphere of which was kept charged with the vapour of the nitrite. As the animals came under the influence of the vapour, the bare patches of skin, where the scales were rubbed off, became red. The appetites of the animals began to improve, and in a few weeks each one of the animals was well.

Here an active nutrition was excited from the induction of a freer blood-current, by the agency of the most potent known paralyser; and since then, in the treatment of lepra in man, he had prescribed the nitrite of amyl with equally good results. He had also seen alcohol of use in such cases. In like manner, he had seen alcohol serviceable in the early stage of phthisis, and in other instances where surface circulation requires a quickened current. In all these instances, however, the skilled hand of the practitioner is necessary for the successful administration. Let the effect produced pass beyond the required stage of effect, and the remedy is worse than the disease. Leave it to the option of the patient to take what he likes, in any form he likes, and he had better not be prescribed for at all by that remedy.

There are certain conditions of disease in which the balance of the nervous power over the heart and over the terminals of the circulation is not steadily maintained. In some instances the vessels at the terminals are unduly relaxed or diseased, and the heart is relatively too powerful. In other instances the reverse is the case, and the heart at times is deficient in power to overcome the resistance and induce the vascular recoil. In certain instances of this kind the nervous supply to the heart is irregular, and the failure is evidenced in intermittency of the stroke of the heart. In other instances the heart is weakened by fatty change of its structure, or by granular degeneration. In other instances still the heart is by construction feebler than the resistance it has to meet.

In these instances, one and all, the skilful administration of alcohol is sometimes of benefit, if it be so guarded that it do not produce any effect beyond the first stage of its action. Pushed beyond that, it is immediately injurious, and even dangerous; and, used by the sufferer himself, it is always a source of danger; for he, not discriminating the good from the evil, and feeling an immediate effect that is good, is tempted to go on increasing the remedy, and thereby the damage to himself.

In these cases, if alcohol be wanted, it should be combined with some other antispasmodic,—usually with nitrite of amyl, which, in doses of from two to five minims in half a fluid ounce of alcohol, makes an excellent combination.

The author found, in experiment, that in cases where an animal is killed suddenly, as by an electric shock or a blow—cases of death by shock or stun,—the resistance to the passage of blood is so intense that it is almost impossible to drive over the arterial circuit a column of fluid. The aorta itself will give way rather than the contraction of the minute vessels. The mode of death, in fact, in these instances, is by sudden and determinate contraction of the vessels under the shock to the nervous system. The nervous system is for the moment surcharged, and the effect is direct on the peripheral surface. Under these circumstances, the heart, if it shall have escaped the effect of the shock, is powerless to act for the propulsion of blood. To meet the emergency of this kind alcohol stands out as a remedy. It has a true physiological meaning, and it has without doubt a practical value. In such a case, Dr. Richardson said, he has often used it with advantage, and should use it again. It acts here as an antispasmodic—a relaxer of vascular tension.

There is another condition in which, under sudden emergency, it is not so distinctly indicated, and is not so practically beneficial—viz., in conditions of hæmorrhage. It is the practice in such cases to give alcohol freely, and that it enables the feeble heart to recommence work is clear. But as it at the same time relaxes the vessels and opens the way to secondary loss of blood, its use is a danger beyond its advantage. Dr. Richardson has published already in THE LANCET the evidence on which this argument rests, and did not do more than refer to it in this brief observation on the present occasion.

From the circumstance that alcohol possesses antiseptic properties it has been assumed that it arrests waste of living tissues, and so conserves the force of life. John Brown, the author of the Brunonian system, seized on this position, and made a great point of it in the controversy in which he engaged. It has since been used by many observers. It has been held, even of late, that if alcohol be not, in the strict sense of the term, a food, it so suspends vital action as to prolong that action, and is therefore a conservative remedy.

The evidence on which this argument rests is at best conflicting and wanting in proof. The chief argument is that some men or women have lived for many weeks, and even for months, when deprived of all support except alcohol.

There are, however, two objections to the evidence of such cases as well as to the inference drawn from it. The objection to the evidence is that in such cases the medical observer is liable to be deceived by the statements of those who have the patient under observation. The objection to the inference is that, if the evidence were true, there is no proof that the alcohol played the part assumed as distinct from the water that accompanied it. In the year 1828 Dr. McNaughten, of Albany, reported the case of Reuben Kelsey, who subsisted for fifty-three days on water alone. The facts are as precisely stated as they can be. In a case which the author once attended, a man refused all food except water, and, as far as could be ascertained, had nothing else, and for eleven weeks held on to this resolve before he succumbed. In the case of the Welsh miners there is distinct evidence that they, during their long incarceration, subsisted on water.

We must, therefore, accept the evidence of the value of alcohol in regard to its sustaining power *sub judice*, and when we come to practical concerns where there can be no doubt whatever, we must be even more reserved. In the treatment of starvation in cases of stricture of the œsophagus, the very types of cases of the kind under consideration, no more injurious practice can be applied than the administration of alcohol by any means. In such instances alcohol excites the heart, produces febrile disturbance, interferes with the natural secretions, increases cough, and encourages waste. By the side of milk it has no place whatever, neither does it offer a single indication of its value as a food.

In studying the relation of alcohol to disease, no other arguments can, in the opinion of the author, be scientifically offered in support of its use and service beyond those to which he has drawn attention. Excepting in the cases named, in which alcohol may be supposed to play a useful part, but in which it cannot be placed as standing alone and as an absolute necessity, he would maintain that total abstinence is as sound a practice in disease as it is in health. Certainly no facts, no series of facts, are more remarkable than those which are revealed when the treatment of disease is observed minus alcohol as a remedy. It soon comes to be a rule with all observers in this school of thought, that the less they trust to alcohol the less they see reason to believe in it; that even in its position as a medicine it is of all the more useful remedies the least necessary; and that he who wilfully leaves its use to the indiscriminate choice of the sick, or to their ignorant attendants, commits a breach of trust which no professional protection, in this day of awakening knowledge, can for any long time excuse, justify, or guard.

Correspondence.

"Audi alteram partem."

FREEZING TISSUES, FOR SECTION-CUTTING, BY MEANS OF ETHER SPRAY.

To the Editor of THE LANCET.

SIR,—The valuable and interesting communication by Dr. Shingleton Smith, in the columns of your last issue, on the subject of section-cutting, after freezing of the tissue by means of ether spray, induces me to offer a few brief remarks, embodying my own opinion and conclusions respecting the value of this freezing agent.

I have no doubt that for those possessed of the needful dexterity the method of procedure indicated by Dr. Shingleton Smith will be found highly successful. But my personal experience of the use of ether spray in section-cutting is drawn from the performance of an instrument recently devised by my colleague, Mr. Bevan Lewis. The instrument in question will be found described by Mr. Lewis in the *Journal of Anatomy and Physiology* for April, 1877. It is eminently simple in construction, and is, in fact, an ingenious adaptation of the ordinary screw microtome. The tissue to be cut is frozen by means of ether spray, but the spray is directed not upon the tissue itself, but upon the under surface of the plate of the microtome on which the tissue is placed. The freezing, then, is effected *through* the metallic plate, and the ether, condensing, is carried away, as it falls, into a special receptacle, and is not, therefore, wasted. In the case of brain-tissue the object is frozen in a few seconds, and large sections are cut with remarkable ease and rapidity.

For my own part, having watched carefully Mr. Lewis's results, I must express my belief, in accordance with the opinion of Dr. Shingleton Smith, that we have in ether spray a most valuable agent in histology, one which possesses great advantages over other methods of hardening, and one which, I cannot doubt, will soon be largely used. And I say this with some natural prejudice in favour of the chromic acid compounds, *et hoc genus omne*, which has done such long and good service to the cause of histology.

So far, unfortunately, the ether spray microtome has not advanced beyond the stage of the working model at present in use here, but it is now being made by Mr. Gardener, instrument maker, of Edinburgh, and, as I trust, with a satisfactory result.—I am, Sir, your obedient servant,

HERBERT C. MAJOR.

West Riding Asylum, Wakefield, April 30th, 1878.

REGISTRATION OF FOREIGNERS WITHOUT DIPLOMAS OR QUALIFICATIONS.

To the Editor of THE LANCET.

SIR.—May I crave a little space in your columns to draw the attention of the profession and of yourself to what I cannot but think you will consider a most unnecessary and dangerous clause in the Government Medical Bill (but one which has hitherto received little notice), and to the action of the General Medical Council upon it. I refer to Clause 8, which provides that the General Medical Council shall have the power to place upon the Medical Register the name of any foreign practitioner of "eminent professional acquirements and character," whether or not he possess any diploma or qualification. When this clause came before the Council, and Mr. Simon proposed that it be approved, Dr. Haldane, seeing it involved a principle, opposed it. As he said, it would admit to the Register in this country foreign practitioners who had no diplomas in their own country. Mr. Simon, in reply, confessed that such would be the effect, but contended that such an effect was a desirable and proper one. He said that "every now and then there would be a man who had not got a recognised diploma, but of whom the Council knew personally that he had been for a great many years in practice in a place which did not diplomatise, and that he held no diploma; and, further, he might have contributed for many years valuable papers on medical science, and after spending a long period in this way abroad, he might come to England. The proposal was that the Council should have power to consider the merits of such a man personally, irrespectively of the question of a diploma, and should be enabled to place him on the Register." Dr. Haldane's amendment not being seconded, Mr. Simon's motion was carried.

Now, Sir, I submit that a course such as that proposed is totally subversive of the very foundation of all our recent medical legislation. The main object of the Medical Act was to secure that, after its passing, no man should be enabled to gain a recognised status as a practitioner who was not in possession of some diploma or diplomas testifying to his knowledge of his profession.

No Englishman can obtain a place on the Register without such diplomas, and it is neither right, just, nor desirable that we should give to foreigners a privilege which we withhold from our own countrymen. Again, I would ask, what civilised country is there which does not "diplomatise" its legitimate medical practitioners? Surely the Council is not to be called upon to register a medical man from Central Africa or the Cannibal Islands!

I have heard it suggested that this clause has been introduced to meet the case of a special individual, "personally" known to the Council, who has been in practice for some years, but without any diplomas. I can scarcely believe that the Council would lend itself to such a barefaced piece of jobbery and evasion of the very object for which it is appointed—viz., to ensure the proper qualification of all medical men seeking the right to practise in this country.

By all means let us be liberal to foreigners, and allow the registration of foreign diplomas of recognised value and standing, as provided for in Clause 7 of the Bill; but I see no reason to go further than this.

In conclusion, I must protest, and I think the profession should unanimously endorse the protest, against provision being made for the admission to the Medical Register of *any* person, Briton or foreigner, who is not possessed of recognised diplomas.—I am, Sir, yours, &c.,

W. DOUGLAS HEMMING.

Notting-hill-terrace, W., April 26th, 1878.

LEUKÆMIA.

To the Editor of THE LANCET.

SIR,—As I was not present at the last meeting of the Pathological Society, perhaps you will allow me a few words in your columns on the absence of amœboid movements in the colourless corpuscles in leukæmia.

The observation which was referred to by Dr. Pye-Smith was first made by my friend Dr. Laking, some years ago, at St. George's Hospital, on the blood of a well-marked case of splenic leukæmia, and was repeated on the blood of the same subject by myself and Dr. Klein. The blood was carefully examined with the usual precautions, both at the ordinary temperature of the air (it was summer) and on the hot stage. We were able to confirm the accuracy of Dr. Laking's observation completely, the corpuscles remaining spheroidal and motionless. In this particular case, therefore, I think there can be no doubt that amœboid movements were absent. But I see that Dr. Moxon stated that Mr. Golding-Bird had found active amœboid movements in leukæmia, and that he himself had seen colourless corpuscles outside the vessels. It is plain, therefore, that further observations are necessary. May it not be that contractility becomes lost only at a certain stage of the disease? I do not think the presence of colourless corpuscles (or similar cells) outside the vessels post mortem proves actual emigration by diapedesis. They may have escaped by rupture, or may even have never been within the bloodvessels at all, as it is impossible to distinguish them from lymph-cells accumulated in perivascular lymphatics.

I am, Sir, your obedient servant,

Upper Berkeley-street, April 27th, 1878. JOHN CAVAFY.

PARIS.

(From our own Correspondent.)

ONE of the questions which until now had caused the greatest division of opinion amongst the Professors of the School of Medicine—I mean the creation of chairs for the teaching of "specialties"—is about to be solved. On Tuesday last, one of the professors gave me the news that

on that very day the professors, pressed on all sides by the urgency of the situation, had, notwithstanding the repugnance and misgivings of some amongst them, determined to vote the foundation of three special and supplementary chairs. One of the chairs will be for Ophthalmology, and will be given to Dr. Trélat, who quits for the purpose the chair of External Pathology which he now occupies at the Faculty. The future occupant of the chair left vacant by Mr. Trélat will be, very likely, Dr. Duplay. The second new chair will be devoted to Diseases of Children, and is reserved for Dr. Parrot, who is already the Professor of History of Medicine. The third chair, including Dematology and Syphilography, will be given to Dr. Fournier, the well-known specialist, who is Vice-Professor at the school, and has delivered several courses of remarkable clinical lectures at the Hôpital St. Louis. It will be observed that two of the new special chairs will be given to men who are already professors at the school, according to the system of permutation which has long been in favour amongst the professors. It is always a great inducement to exchange a theoretical chair at the school for any of the clinical chairs, the teaching in which is carried on in the hospitals. All three of the new chairs are clinical. Henceforth pediatrics will be officially taught by the Faculty at the Hôpital des Enfants Malades, dermatology at the Hôpital St. Louis, and ophthalmology, very likely at the Hôtel Dieu. Some time ago a fourth special chair, for Mental Disease, was created by the school, and after various difficulties of organisation, it will be placed at the Asile Ste. Anne. I say that all these new supplementary chairs have been granted with considerable diffidence and hesitation, as the professors, as a body, have always shown the greatest reluctance to the introduction of "specialties" into the Faculty.

Whilst on the subject of professional nominations, I may just mention that the chair of Experimental Medicine at the Collége de France, left vacant by the death of Claude Bernard, will in all likelihood be given to Dr. Charcot, who is now Professor of Pathological Anatomy at the School of Medicine, and whose remarkable clinical lectures at Salpétrière are universally known, and have often been noticed or published by your journal. No one could be better fitted to be the successor of Claude Bernard at the Collége de France.

Amongst the novelties to be seen at the forthcoming Exhibition will be a series of specimens of plated human brains sent by Dr. Ore, the ingenious Professor of Physiology at the Bordeaux School of Medicine. Dr. Ore has applied galvanoplasty for purposes of preservation to the brains of men and animals, and has obtained, I am told, very remarkable results, the external surface presenting the hard brilliant surface of a metal, whilst the inner substance assumes the consistency of mastic, and is quite unalterable.

The Minister of Agriculture and Commerce has just issued a decree for reorganising the system of education in the schools of veterinary surgery. At each school there will be in future eight professorial chairs. The chair of Anatomy will include general anatomy and histology, descriptive and comparative anatomy, teratology, &c.; the chair of Physiology, general and special physiology, and general therapeutics; the chair of Accessory Sciences, natural philosophy, chemistry, pharmacy, and toxicology; the chair of Pathological Anatomy, contagious diseases, sanitary police regulations, commerical and medical legislation, inspection of flesh for food, &c. &c.; the chair of General Pathology, special medical pathology, general and clinical pathological anatomy, &c. &c.; the chair of Surgical Pathology, operative surgery, obstetrics, topographical anatomy, horseshoeing, and farriery, clinical surgery, &c.; the chair of Natural History and Materia Medica, general and special zoology, botany, materia medica, &c.; the chair of Hygiene and Zootechny, agriculture in relation to the production of animals, general and special hygiene, &c. The study of the horse has been made as complete in the veterinary schools as that of man in the school of medicine; still we see no mention of a special chair of syphilography.

Speaking of syphilography reminds me of a good anecdote which the illustrious Ricord related to me the other morning in one of those short, pleasant parentheses which occur in a medical consultation, and which Ricord, that most amiable and witty of men, makes still more pleasant. He was telling me how Raspail, the famous chemist and "ferocious rouge," having got into trouble in 1848, was made a prisoner and locked up in the Palace de Luxembourg, and how he, Ricord, doing the duty of a National Guard at the time, happened to be appointed to act as sentinel at the door of the great socialistic agitator. Ricord, in the costume of a *Garde Nationale*, with gun on shoulder, mounting guard at the door of the imprisoned Raspail! This is a new aspect of things, and the history of Paris revolutions is in possession of one more anecdote.

A great marriage is reported which will connect the families of two of the "princes of medicine" of Paris. The son of Professor Chauffart (who is auditor at the Council of State) is about to marry the daughter of Professor Gosselin, the eminent surgeon of La Charité.

I was glad at the last meeting of the Academy of Medicine to see Professor Depaul looking in perfect health and spirits, in this his second return from Brazil, whither he went to attend the future Empress, with the "acceptable" fee of, I think, 200,000 francs.

Paris, April 23rd, 1878.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen, having passed the required examination, have been admitted Members of the College:—

Bird, William Valentine, M.D Aberd., L.R.C.P., Sydenham.
Bogg, Thomas Wemyss, M.B. Lond., St. Leonards.
Boulton, Percy, M.D. Edin., Seymour-street, W.
Gill, Stanley Augustine, Royal Lunatic Asylum, Liverpool.
Saundby, Robert, M.D. Edin., Birmingham.
Savage, Geo. Henry, M.D. Lond., L.R.C.P., Bethlem Hospital.
Thorburn, John, M.D. Edin., Manchester.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Primary Examination in Anatomy and Physiology at the recent meetings of the Board of Examiners:—

Wm. Sellers, R. B. Knowles, Jas. Thomson, W. Pligg, J. H. M. Bock, A. Hugh Barbour, G. B. Silke, Edw. F. Martin, and Edw. S. Jackson, Edinburgh; John Whiting, Charles Sanders, J. N. Cook, E. Rice, H. J. Barratt, and O. A. Browne, St. Bartholomew's Hospital; John J. Boswell, Leopold Burroughs, H. P. Rowlands, Robt. A. Milligan, H. P. Berry, and J. J. Udale, Guy's Hospital; Daniel E. Anderson, Sydney H. Henty, Edgar F. G. Morris, James Norie, W. Clark, T. W. J. Allen, and W. F. P. Bassett, University College; T. H. T. Frampton, R. D. H. Gwillim, A. Benson, W. A. Smith, and G. C. R. Bull, St. Mary's Hospital; E. M. Little, F. M. Puddicombe, and F. C. S. Sanders, St. George's Hospital; William M. Jennings and J. F. Mackenzie, Newcastle-on-Tyne; A. G. Wood and Alfred S. Kenny, King's College; W. Edwin Winskell and Alex. Davidson, London Hospital; John C. K. Husband and J. N. Richardson, Leeds; Francis J. Grindon, Charing-cross Hospital; O. G. D. Bradshaw, Bristol; E. G. Peck, Alfred F. Street, and F. M. Pope, Cambridge; David J. Thomas, Glasgow; Arthur Vores, St. Thomas's Hospital; F. W. Martin, Liverpool and Charing-cross Hospital; Howard H. Tooth, Cambridge and St. Bartholomew's Hospital; J. H. A. Rhodes, Liverpool; William Loynd, William Knott, and William H. Sharples, Manchester; F. Spencer Watson, Charing-cross Hospital; Arthur W. Loveridge, Middlesex Hospital; Arthur T. Kingsland, Thomas P. Pemberton, Edward A. Harbord, Alfred Lee, and W. E. Alldridge, Birmingham; J. J. Rubie and Robert Jones, Dublin; Hugh G. Hill, St. Mary's Hospital; David Harris, Leeds.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on April 25th:—

Barnes, James John Frederick, Caversham-road.
Coombs, Samuel Wellesley, Worcester.
Morton, Augustus Charles, Aylsham, Norfolk.
Shepherd, Thomas William, Ilminister.

The following gentlemen also passed the Primary Professional Examination:—

Evan Naunton Davies and Joshua King Womersley, Guy's Hospital; Joseph Moore Greensill and James Haynes Greensill, Middlesex Hospital; William John S. Ladell, St. Bartholomew's Hospital; Thos. Edward Leadbeater.

At the Preliminary Examination in Arts held at the Hall on April 26th and 27th, 76 candidates presented themselves, of whom 24 were rejected, and the following 52 passed and received certificates of proficiency in General Education:—

FIRST CLASS (in order of merit).—1st: H. C. E. Cooper. 2nd: W. W. Floyer. 3rd: Rowland Hill, A. Mitten, and W. H. Moore. 6th: H. E. Bateman and Annie M'Call.

SECOND CLASS (in alphabetical order).—S. Aspinall, J. C. Bates, H. S. Baumgartner, J. B. Berry, B. Blackmore, R. E. Bowen, J. F. Bowring, L. H. Brown, H. M. Bullock, T. E. Butler, F. G. Carnell, F. M. Coppin, C. Conlan, C. E. Day, F. H. Douglas, J. H. Drury, C. H. East, A. J. Gardner, W. E. Gardiner, A. E. Garrett, W. H. Gimblett, A. I. Grant, H. S. Greenwood, G. F. Hentsch, W. Hern, H. T. Herring, G. Hoggmaner, A. E. Marsack, F. B. Norris, H. S. Parkinson, A. Sales, P. M. Scatliff, J. S. W. E. Sharman, A. Shearman, A. F. Smith, E. T. Smith, F. W. S. Stone, R. W. Statham, A. E. Taylor, R. H. Taylor, S. R. Thomas, A. G. Webster, G. D. Wenham, A. E. Woodforde, G. A. H. Woodforde.

MR. W. H. RAWLINGS, Teignmouth, Devon, has received £13 4s. Government gratuity for successful vaccination, being the third time of award.

GRESHAM LECTURES.—Dr. Symes Thompson has chosen "Headache" as the subject of his discourses this year. The lectures will be delivered in Gresham College, Basinghall-street, on May 7th and three following days, commencing at 6 P.M.

MEDICAL SOCIETY OF LONDON.—The annual Oration will be delivered at Chandos-street, Cavendish-square, by Dr. Alfred Carpenter, on Monday next, at 8.30 P.M., the subject being "Alcoholic Drinks, as Diet, as Medicine, and as Poisons." The usual *conversazione* will also be held on the occasion, which is to be enlivened by choice music, the attendance of the band of the Royal Artillery having been secured.

PROFESSOR GORDON, of Belfast, has been presented with a life-size oil-portrait of himself (which is to remain in the examination hall of Queen's College, a half-length copy of which is to be presented to Mrs. Gordon) and an illuminated address, by his pupils, colleagues, and friends, in recognition of the valuable services he has rendered to the College as Professor of Surgery for thirty-seven years.

Medical Appointments.

ATKINSON, J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer for the Ronaldkirk District of the Teesdale Union, vice Helmer, resigned.

ATKINSON, R., M.R.C.S.E., has been appointed Senior House-Surgeon to the Royal Free Hospital, vice Hamilton, resigned.

BAILEY, T. C., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer of Health for the Crewe Urban Sanitary District, at £50 per annum, vice Lord, resigned.

BROCK, A. C., L.R.C.P.L., M.R.C.S.E., has been appointed Assistant House-Surgeon to the General Hospital, Bristol, vice Parker, resigned.

BULLOCK, J. E., M.R.C.S.E., has been appointed House-Surgeon to St. Peter's Hospital, Berners-street, vice Vachell, whose appointment has expired.

CHEESEWRIGHT, J. F., M.R.C.S.E., L.R.C.P.Ed., has been reappointed Medical Officer of Health for the Grassebrough Urban Sanitary District, Yorks.

ADAMS, S. W., L.R.C.S., L.R.C.P.Ed., L.S.A., has been appointed Resident Surgical Assistant to the Glasgow Royal Infirmary.

CUTLER, P. A., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Kilmeaden Dispensary District of the Waterford Union, at £100 per annum and fees, vice Baldwin, deceased.

DAVIES, Mr. E., has been appointed Resident Medical Assistant to the Glasgow Royal Infirmary.

DEACON, W. O., L.R.C.P.Ed., L.R.C.S.Ed., L.A.H.D., has been appointed Medical Officer to the West Derby Union Workhouse, vice Archer, appointed Medical Officer for the Garston District.

DUNCAN, W., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Parishes of Walls and Sandsting, in Shetland, vice Murison, resigned.

FERGUSSON, R. A., L.R.C.S., L.R.C.P.Ed., L.S.A., has been appointed Resident Surgical Assistant to the Glasgow Royal Infirmary.

FRASER, Mr. D. M., M.A., has been appointed House-Physician to the Royal Infirmary, Aberdeen, vice Henry, whose appointment has expired.

HADDEN, Mr. R., has been appointed Apothecary to the Skibbereen Dispensary, Skibbereen Union, co. Cork.

HANCOX, W. M., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Bilston District Provident Society for the ensuing year.

HAY, H., M.B., C.M., has been appointed Assistant to the Extra Physicians of the Royal Hospital for Sick Children, Edinburgh, vice Grant, whose appointment has expired.

HERBERT, Mr. J., has been appointed Resident Surgical Assistant to the Glasgow Royal Infirmary.

HIGHET, J., M.B., C.M., has been appointed Certifying Factory Surgeon for Workington, vice Dickinson, resigned.

IRWIN, J. A., M.D., M.R.C.S.E., has been appointed a Medical Officer to the Southern Hospital, Manchester.

KNIGHT, A. A. H., M.D., has been appointed Certifying Factory Surgeon for Keswick, vice Brown, resigned.

LIVINGSTON, J., M.D., C.M., F.F.P.S.G., has been appointed Certifying Factory Surgeon for Barnet, vice Godson, resigned.

LOVELL, W. D., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for Bradford-on-Avon, vice Oulton, resigned.

MOSSMON, Mr. R. A., has been appointed Resident Medical Assistant to the Glasgow Royal Infirmary.

OGILVIE, Mr. J. H., has been appointed House-Surgeon to the Dumfries and Galloway Royal Infirmary.

OWEN, R. E., M.R.C.S.E. & L.M., L.S.A.L., Public Analyst for Anglesey, has been appointed Public Analyst for the County of Carnarvon, upon the same terms.

PETERKIN, Mr. A., has been appointed Resident Surgical Assistant to the Glasgow Royal Infirmary.

REAN, W. H., M.R.C.S.E. & L.S.A., has been appointed Certifying Factory Surgeon for Gunnislake, Cornwall.

SHEAF, C. A. E., M.R.C.P., F.R.C.S.E., has been appointed Surgeon to the Barrow Steam Navigation Company, Barrow-in-Furness.

SIMON, R. M., M.B., M.R.C.S.E., has been appointed a Medical Officer to the Southern Hospital, Manchester.

SIMPSON, J., M.B., C.M., has been appointed a Medical Officer to the Aberdeen Dispensary, vice Fraser, who retires by rotation.

STEEL, Mr. J., has been appointed Resident Medical Assistant to the Glasgow Royal Infirmary.

STEWART, F. G., M.R.C.S.E., L.S.A.L., has been appointed Physician's Assistant to the General Hospital, Bristol, vice Brock.

SYMINGTON, J., M.B., C.M., M.R.C.S.E., has been appointed Resident Surgical Assistant to the Glasgow Royal Infirmary.

TIBARD, J. C., M.B., M.R.C.S., has been appointed Medical Tutor and Sub-Dean to King's College, vice Cross, resigned.

WATERS, A. J. G., L.R.C.P.Ed., M.R.C.S.E., has been reappointed Medical Officer of Health for the Okehampton Urban Sanitary District, for three years.

WILLES, W., M.R.C.S.E., has been appointed a Junior House-Surgeon to the Royal Free Hospital, vice Hookham, resigned.

WILLIAMS, Mr. O., has been appointed Resident Medical Assistant to the Glasgow Royal Infirmary.

WINTERBOTTOM, A., F.R.C.S.E., has been appointed Dental Surgeon to St. George's Hospital, and Lecturer on Dental Surgery in the Medical School.

WOOD, Mr. A. H., has been appointed Resident Medical Assistant to the Glasgow Royal Infirmary.

YOUNG, R., M.D., M.R.C.S.E., has been appointed an additional Visiting Surgeon to the Newcastle-upon-Tyne Lying-in-Hospital.

Births, Marriages, and Deaths.

BIRTHS.

CHETWOOD.—On the 29th ult., at King-street, Finsbury-square, the wife of William Chetwood, M.R.C.S.E., of a daughter.

ELWIN.—On the 20th ult., at City-road, the wife of Charles John Elwin, M.R.C.S.E., of a daughter.

HARRIS.—On the 27th ult., at Penlene House, Falmouth, the wife of Arthur B. Harris, M.D., of a son.

HIBBERD.—On the 22nd ult., at Campfield Lodge, St. Peter's-park, the wife of Edward Hibberd, M.D., of a daughter.

MACAW.—On the 20th ult., at Sharvagh, Bushmills, co. Antrim, the wife of James Macaw, M.D., of a daughter.

ORTON.—On the 29th ult., at Lower Phillimore-place, Kensington, the wife of George Hunt Orton, M.B., F.R.C.S.E., of a son.

PIGGOT.—On the 24th ult., at Beckenham, Kent, the wife of Allan Piggott, L.R.C.P.Ed., of a son.

MARRIAGES.

ADAMS—LOURY.—On the 27th ult., at All Saints Church, Surrey-square, London, by the Rev. W. Hall, James Adams, M.D., of Ashburton, Devon, to Eliza Ann (Annie), younger daughter of the late R. Loury, Esq., of St. John's-wood, N.W.

CAMERON—SHEPHERD.—On the 30th ult., at St. Mark's, Lewisham, by the Rev. George Cameron, Vicar of Heckington, Lincolnshire (uncle of the bridegroom), assisted by the Rev. T. West, Vicar of St. Mark's, Lewisham, Charles Hamilton Hone Cameron, M.R.C.S.E., L.R.C.P.L., of Harlesden, N.W., only son of the late Rev. Charles Cameron, to Mary Louisa Savile, fifth daughter of the late Robert Walter Mexborough Shepherd.

LAMBERT—HAGGIE.—On the 1st inst., at St. Mary's Church, Whitburn, by the Rev. Canon Hitchcock, M.A., and the Rev. James Blair, M.A., Vicar of Killingworth, William Osborne Lambert, M.D., of Sunderland, to Elizabeth, daughter of Peter Haggie, Esq., of Gateshead and Cleadon-park, Harton, South Shields.

WALDO—WATERS.—On the 25th ult., at the Parish Church, Clifton, by the Rev. J. P. Waldo, Vicar of St. Stephen's, South Kensington (cousin of the bridegroom), assisted by the Right Rev. Bishop Anderson, Vicar, Henry Waldo, M.D., of Clifton, to Cecilia Emily Elizabeth, only daughter of the late Richard Waters, Esq., Solicitor, of Tredegar, Mon.

WARD—LYONS.—On the 16th ult., at St. Peter's Church, by the Rev. J. J. Macsorby, M.A., Espine Ward, F.R.C.S.I., Surgeon-Major, Army Medical Department, to Elizabeth Eleanor, widow of J. H. Lyons, Esq.

DEATHS.

CLANCY.—On the 22nd February, at Mitchelstown, co. Cork, Thomas Clancy, L.F.P.S.G., aged 46.

CLARKE.—On the 20th ult., at Upperlands, Maghera, Jackson N. Clarke, M.D., aged 63.

COLLINGWOOD.—On the 20th ult., at Gauden-road, Clapham, William Percy Collingwood, M.R.C.S.E., aged 57.

CUNNINGHAM.—On the 24th ult., at Hailsham, Sussex, James Mackay Cunningham, M.D., aged 75.

GRAY.—On the 26th March, at Kamptee, India, John Gray, M.D., Surgeon-Major, Army, aged 20.

LEAKE.—On the 14th ult., at his residence, Rathkeale House, Girdler's-road, Brook-green, W., Jonas Richard Leake, L.R.C.P., M.R.C.S., L.S.A., &c., Half-pay H.M.'s Army, late 80th Regiment, eldest surviving son of Jonas Leake, M.D., of West Kensington-gardens, London, aged 34. R.I.P.

MACPHERSON.—On the 7th ult., at Moor-street, Birmingham, Robert Samuel Macpherson, L.K.Q.C.P.I., aged 39.

POYNDER.—On the 18th March, at Worthing, George Poynder, Surgeon, aged 65.

PRETTY.—On the 23rd ult., at Quebec Lodge, Lower Norwood, William Pretty, M.R.C.S.E., aged 80.

ROBSON.—On the 17th ult., at Lonsdale-terrace, Edinburgh, William Robson, M.D., aged 43.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, MAY 2ND, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apr. 26	30·04	N.E.	44	47	..	61	42	..	Cloudy
,, 27	30·21	N.E.	46	50	..	65	42	..	Fine
,, 28	30·24	E.	52	59	..	64	42	..	Fine
,, 29	29·96	E.	49	54	..	66	46	..	Cloudy
,, 30	29·64	S.E.	55	57	..	69	51	0·29	Overcast
May 1	29·61	S.	55	58	..	68	54	..	Overcast
,, 2	29·87	W.	53	55	..	69	51	0·16	Cloudy

Notes, Short Comments, and Answers to Correspondents.

SMALL-POX DIAGNOSIS.

IN the week ending 20th April the death of a female, aged twenty years, was registered in the Stamford-street Peabody-buildings, the cause of which was certified by a registered medical practitioner as "purpura hæmorrhagic, two days." The case was noted by the Registrar-General, and appears to have attracted the attention of the medical officer of health for Lambeth, who, suspecting small-pox, ordered the disinfection of the room and bedding. The Registrar-General reports in his last Weekly Return that the medical officer of health has informed him that the brother of the deceased woman has since been attacked with, and is now suffering from, confluent small-pox in the same room. We fear that in this instance a malignant case of small-pox was mistaken for hæmorrhagic purpura. The blocks of Peabody-buildings in Stamford-street contained a population of 1472 persons on March 31st last, and the responsibilities of the trustees and of the medical officer of health in such a dense population are heavy. The prompt diagnosis of cases of small-pox in towns is so important from a sanitary point of view that advantage should be taken of the present extensive hospital treatment of the disease for the instruction of the students of our metropolitan medical schools. A considerable proportion of the present medical practitioners have probably never seen a case of malignant hæmorrhagic small-pox.

THE third Lettsomian Lecture, by Mr. Francis Mason, on the Surgery of the Face, will appear shortly.

TREATMENT OF INCONTINENCE OF URINE.

To the Editor of THE LANCET.

SIR,—A few weeks ago I read a letter from a correspondent regarding incontinence of urine in children; and as I, like a great many other medical men, have been from time to time annoyed by failing to effect anything more than temporary relief in such cases as came under my care until about the middle of this year, when I happened to have some very troublesome cases on hand, which since then have had perfect control over the bladder by day and night, I have thought it could do no harm to give my experience.

I had had for some years a little boy and also a little girl in separate houses. The boy was pale and unhealthy, and had been given up by me as incurable, as I had tried him with everything I had ever used in such cases or heard or read of. I had done all I could to restore and act on his general health, but without effect. He was lifted as often as four times between night and morning, but with it all the sheets were wet. The little girl was done by in every respect the same, and with a similar result; the only difference was she could not retain her urine during the day, but was constantly wet.

One day, being visiting where the boy lived, I was requested to prescribe for three other boys, who had "wetted the bed three nights in succession," and as they "had been well thrashed" without effect, it was feared they were about to follow the example of the other "incurable." On inquiring what they had to eat &c. for the past few days, I was informed it had been a sort of festive time with them. I ordered a smart purge, and to reduce the rations. In a few days, on being there again, I was informed none of them had repeated the offence.

I wondered whether the unusual number of meals, with animal food at each, could have had to do with the incontinence, and requested that they, and also the "incurable," should for two weeks have flesh meat in *any form* but once a day, and that only three days a week. When I inquired again, I was informed none of them, not even the incurable, had once wetted the bed since the flesh meat had been reduced. I called where the little girl lived, and requested her to be treated the same as regarded flesh meat, and from then till the present time neither boy nor girl has been complained of; and when I ask how they are, the answer has always been, "Oh, quite well ever since the flesh meat was reduced."

I have tried it in other cases since then with a like good result; but as they are more recent, I cannot say whether it may continue. I do not know if the same or similar treatment has been tried by others. I at least never heard of it till I tried it myself. I shall be glad if any other practitioner will give it a trial where other treatment has failed.

I am, Sir, yours &c.,

Rotherfield, Sussex, April 14th, 1878. JOHN M'INTYRE, M.D.

CHINCHONA CULTIVATION.

THE officials who supervise our numerous chinchona plantations in India should be on the alert against the importation of an insect capable of committing serious ravages on the bark, and which has already appeared in JAVA. The insect (a hemipterous one) when winged or in the unwinged state feeds upon the juices contained in the younger portions of the bark. The parts attacked cease to grow; the leaves as well as the young branches droop, wither, and become black. Many precautions have been taken by the Dutch cultivators against the multiplication of the pest, one being the prohibition of the destruction of birds in the neighbourhood of the trees. The low-lying plantations have suffered most, those situated above a height of 3000 feet being comparatively safe. It has been observed that the insect also attacks the tea plant.

THE TEMPERATURE OF THE HUMAN BODY IN HOT CLIMATES.

To the Editor of THE LANCET.

SIR,—Dr. Boileau's article on the above subject, in your issue of the 23rd ult., opens up a very interesting and important subject, and one which I am sure your readers would like to hear further remarks upon from those who have practised thermometry in the tropics.

Dr. Boileau states that the axilla temperature in the tropics is always *lower* than in this country, which is directly opposed to the experience of Dr. John Davy. Dr. Wunderlich, in the New Sydenham Society's Transactions, tells us that the axilla temperature is lower than the buccal, in which region Dr. Boileau's experiments were made. Dr. Wunderlich says: "We may safely allow that when the mean temperature of the axilla is in healthy persons 98·6°, that of the mouth is 98·78° to 98·96°," and I think this bears out the conclusion most of us have come to, and may in some measure account for the difference in the result arrived at by Drs. Boileau and Davy. It appears only natural after all that the axilla should register lower than the mouth; the one is an exposed cavity, lined with integument more or less cooled by the moisture which usually collects within it; while the other is a closed cavity, lined with a highly sensitive mucous membrane. How frequently do we find the skin of our chest, epigastrium, and axillary regions cold to the touch when our bodies are in a state of great heat from exertion. In the tropics the external heat relaxes the capillary vessels on the surface of the body, thereby permitting a large amount of the circulating fluid to be exposed to the cooling action of evaporation, which rapidly takes the place of the moisture eliminated from the distended vessels—in a few words, rapid cutaneous transpiration keeps the temperature reduced. We can account in this way for the temperature of the blood being kept at its normal standard; but why, as Dr. Boileau states, it should be lower than in colder countries appears unaccountable. Dr. Thornley, in THE LANCET of the 13th inst., gives, as the result of his experiments in the tropics, a temperature coinciding with the blood temperature of people residing in other climates.

I am, Sir, yours obediently,

Cirencester, April 15th, 1878. H. J. PHILPOT, L.R.C.P., &c.

J. H. H.—Section 25 of Charter 15th Victoria was printed by mistake for Section 5 &c. This section empowers the Council to admit to the Fellowship in each year, without examination, but subject to such conditions and regulations as the Council may think fit, any two members of the College of not less than twenty years' standing.

SAYRE'S PLASTER-OF-PARIS BANDAGE.

To the Editor of THE LANCET.

SIR,—An extensive employment of Sayre's plaster-of-Paris jacket has taught me the remedy for the slight, though troublesome, inconvenience complained of by "M.D." in your number for April 20th. If the crinoline bandages are only slightly imbued with the plaster, so that when applied more plaster has to be rubbed on over all, this outside crust, being unsupported by the fibres of the bandage, is sure to scale off, and bring the jacket to an untimely end. If, however, the bandages are thickly but evenly spread with the plaster, and allowed to remain three or four minutes in the water, and then applied, the plaster, supported in the meshes and between the turns of the coarse crinoline throughout the entire thickness of the jacket, will firmly set (unless stale), without a tendency to peel. Over the edges of the jacket the merino vest should be fastened down, or a neat border of strapping can be applied. The use of size or of some other varnish mixed with the plaster has been suggested, or even the substitution of silicate of soda for it altogether; but a moment's reflection will show that by thus rendering the jacket impervious to the perspiration, it would soon become a disagreeable article of clothing, while the porous plaster-of-Paris may be worn for months without the slightest unpleasantness arising. The substitution of felt, leather, &c., for the accurately fitting plaster jacket would be only returning to the hitherto employed, though inefficient, orthopedic "spinal." Except by the accurately moulded plaster jacket, it is impossible to fulfil the two fundamental conditions of Sayre's treatment—viz., in cases of caries, giving absolute and physiological rest to the diseased structures; and in cases of general curvature, preventing the trunk "telescoping" again after it has once been extended in the swing.

Your obedient servant,

St. Thomas's-street, S.E., April, 1878. C. H. GOLDING BIRD.

To the Editor of THE LANCET.

SIR,—The difficulty mentioned by your correspondent, "M.D.," in your issue of April 20th, can be overcome by coating the jacket, as soon as the plaster is set, with gum. I have also found it a good plan to turn up the lower end of the vest over the lower edge of the plaster jacket, and to fix it by a bandage. If, however, the plaster-of-Paris be thoroughly rubbed into the bandage before it is applied, there will be little crumbling even without the above precautions.

I am, Sir, yours truly,

April 27th, 1878. M. A. F.

A GROUNDLESS COMPLAINT.

THE Kingstown correspondent of the *Western Morning News* makes a serious charge against the authorities for having sent only one medical officer with the 21st Scots Fusiliers and the men of the Militia Reserve from Fort George to Greenock, and thence to Kingstown. We wonder how many he would have considered necessary. There were about 1900 persons embarked in good health for a voyage of three days from Fort George to Greenock, and one day from Greenock to Kingstown. To send three or four medical officers on such a duty would be to inflict an unnecessary hardship on them, and a needless expense on the public. The correspondent furnishes the best answer to his complaint when he states that the services of this one medical officer who accompanied the troops were not required! He also states that the medical officer was totally unprovided with medicines or medical appliances. The *Orontes*, in which the troops were conveyed, is a troop-ship, and we believe all troop-ships have a fitted surgery and a supply of medicines. Where, then, was the necessity for embarking a medicine-chest for the special use of these troops during the few days they were to be on board?

Capillus.—Accept the condition. It is nothing to regret.

TRANSFORMATION OF INULINE INTO GLUCOSE.

To the Editor of THE LANCET.

SIR,—Reading Dr. Pavy's lectures on "Points connected with Diabetes" reminds me of some observations I made last year on the transformation of inuline into glucose, a change which is the exact parallel of the conversion of glycogen into the same form of sugar, and under conditions so similar that we can follow in the sap of a plant one of the reactions which occur in the blood of a dead or dying animal.

If a living root of dandelion be crushed, it yields a turbid, bitter juice loaded with inuline, but quite, or almost, free of glucose; and, if the former be separated by the addition of alcohol, no sugar will be subsequently formed in it, as would be the case if the inuline were allowed to remain. But if the root is exposed to the air until the leaves wither and its vitality be gone, and it is then subjected to pressure, the juice is no longer turbid nor bitter, and the whole of the inuline will have passed into grape-sugar. Now, as inuline, glycogen, and glucose belong to the same series of carbo-hydrates, and have the same carbon ratio, it is obvious that this change can readily take place in the presence of any albuminous compound, animal or vegetable, which is itself decomposing; and, on the other hand, that a very small amount of life-force, either animal or vegetable, may be sufficient to arrest it altogether, since the comparatively feeble vitality of the growing dandelion is able to do so completely. And it has occurred to me—and I do not remember having seen this hypothesis published before, although I dare say it is not original—that the reason why sugar should not exist in living blood is this: that being a crystalloid it would be perpetually drained off by dialysis in the kidneys and elsewhere; whilst glycogen, being a [illegible], is retained until, in the capillaries, it is converted with evolution of heat into carbonic acid and water, perhaps passing into sugar as an intermediate change; and that the decomposition might be arrested at this stage, and the diabetic condition ensue, through lowered vitality of the blood itself or defective nerve-force in the vessels, is *à priori* evident.

The parallel I have pointed out is the more interesting because *succus taraxaci* seems to be useful in alcoholic dyspepsia, and its bitter principle may have some analogy to that secreted in the gall-bladder during health.

How little force is really necessary to restrain most instable compounds from change is well shown by the very feeble electric current that will preserve ammonium amalgam in the air; that from a quarter of an inch of platinum and zinc wires immersed in salt-and-water will keep a spongy mass as large as a walnut unchanged as long as any of the zinc remains. And we may infer, therefore, how much less will prevent inuline or glycogen passing into sugar.

Yours obediently,

Ixworth, April 28th, 1878. G. P. MASTERMAN, L.K.Q.C.P., &c.

Mr. Albert J. Morton.—Every district and workhouse medical officer under the Local Government Board has a *deputy* duly appointed. He alone is recognised by the Board, and unqualified assistants cannot be *legally* employed.

E. F. had better make application to the Colonial Agency Offices, Downing-street, S.W.

METHODS OF RESTORING THE APPARENTLY DROWNED.

To the Editor of THE LANCET.

SIR,—As I perceive by Dr. Howard's letter, in reference to his method of inducing artificial respiration, that he intends giving illustrations of it shortly, may I request him and also Captain Marshall Hall to look into a report by a Committee appointed by the Medical and Chirurgical Society of London in 1866-67 to examine my method as brought forward in a paper previously read before the Society by me. Amongst the members of the Committee were Professors Burdon-Sanderson, Savory, and Power, who, after many experiments in St. George's Hospital, gave in their report, the essence of which was that my mode of inducing artificial respiration gave better results than any that had hitherto been discovered.

I think in any future study of this subject it would hardly be proper to ignore entirely the opinions of such eminent men.

I may add that, living as I do in a neighbourhood where accidents in the water are of frequent occurrence, I have had ample experience of the simplicity and efficacy of my method, which I may state was grounded on some experiments shown me by Professor Pacini in Florence.

I remain, Sir, yours &c.,

W. P. BAIN,

Formerly Senior Surgeon, Poplar Hospital.

Blackwall, April 30th, 1878.

AN EARLY PRACTITIONER OF VACCINATION.

Mr. W. H. Mitchell, (Islington.)—We thank Mr. Mitchell for the papers he has sent us relative to the part his great-grandfather, Mr. B. Jesty, of Downshay, Isle of Purbeck (Dorset), played in the early history of vaccination in this country. Mr. Mitchell does not seem to be aware that Mr. Jesty's part in this important matter was made the subject of inquiry by the Parliamentary Committee which investigated Dr. Jenner's claims in 1802. Mr. Mitchell, if he cannot get easy access to a copy of the report of that Committee, will find a summary of its proceedings and of the facts relating to Mr. Jesty in Dr. Baron's Life of Dr. Jenner, published in 1827 (vol. i., chap. 12).

Dr. Octavius Sturges.—We cannot find space for discussion on the point raised. The case was exceptional, and related to an exceptional form of the disease.

VOMITING IN PREGNANCY.

To the Editor of THE LANCET.

SIR,—The result in the following case so fully supports the treatment recommended by Dr. M. O. Jones, of Chicago, and Dr. J. Marion Sims, in their interesting paper on the Vomiting in Pregnancy in your issue of Feb. 23rd, to which I am indebted for the treatment, that I am induced to send it to you for publication should you think it of sufficient interest.

Mrs. ——, a strong, healthy woman, twenty-eight years of age, third pregnancy, has always carried with sickness until about the seventh month, but worse in her first and present pregnancy, particularly the latter. Sickness commenced shortly after conception, and gradually kept getting worse until about six weeks gone, when she found herself constantly sick, and unable to attend to her household duties, when she applied to me. I tried the usual remedies (soda, bismuth, dilute hydrocyanic acid, chloral, &c.), and only found very temporary benefit from any of them, so I determined to try the application of the solution of nitrate of silver, two drachms to the ounce. On the morning of April 7th, having removed a very slight discharge from the os, I swabbed it with the above solution until the surface of the cervix was well whitened, stopped all medicine, and ordered my patient to remain in bed until the following day. However, she got up the same evening, seven hours after the application, when she felt slight nausea, but no sickness. Since that time she has been perfectly well, eats heartily, puts on flesh, and is able to attend to all her household duties, which are of an arduous nature.

A strange fact in connexion with the above case is, the husband suffered from sickness daily since his wife's pregnancy, though not to any serious extent; but since her sickness has ceased, so has his. Can any of your readers explain this (to me) strange phenomenon?

Faithfully yours,

N. W. ALLT, L.K.Q.C.P., &c.

Wittersham, Kent, April 22nd, 1878.

P.S.—Since writing the above I have seen Dr. Macnab's letter in your issue of the 20th inst. on the above subject. I should like to ask if the fœtus *was dead* on the accession of the serious symptoms on March 11th, as the details remind me very forcibly of a similar case which occurred in a primipara, aged twenty-four, in Jamaica some years ago, in which the fœtus was dead *at least four days*, and in which a rapid recovery took place after delivery. I apprehend Drs. Jones and Sims' treatment is not recommended for such cases, as in them speedy delivery is the remedy.

To the Editor of THE LANCET.

SIR,—I have read with much interest Dr. Macnab's case reported in your journal of April 20th. There is one point in this instructive case which does not appear to me to be so prominently noticed as it deserves—namely, its bearing on Dr. Copeman's mode of treatment of the vomiting of pregnancy. Dr. Macnab, after describing the method he practised to induce premature labour, says: "The effect of this interference upon the patient was truly astonishing. From the moment the dilating pressure came to bear upon the cervix, the sickness and retching ceased." Does not this offer striking support to Dr. Copeman's views, that the sickness in these cases is due to "undue tension, producing sympathetic irritation," and that the dilatation of the os uteri is the proper and sufficient treatment in most cases?

Yours truly,

Eye, Suffolk, April 24th, 1878. E. G. BARNES, M.D. Lond.

Mr. Manby desires to point out that he has been misunderstood if it is supposed he recommends a lengthened period of isolation after an attack of mumps as necessary to prevent communication of the disease, his "cases seeming to prove that contagion ceased as soon as all parotid swelling had subsided." It was the belief that "the period of incubation was much longer than is usually supposed" he desired to express.

HOMICIDAL MANIA.

To the Editor of THE LANCET.

SIR,—By quoting Drant's case in support of his theory of homicidal mania, it appears to me that certain contingent facts have escaped Dr. Bucknill's observation. At the time of the trial I was practising in the neighbourhood of Lincoln, where the man was tried, and, although I had no professional knowledge of him, the circumstances of the case were too well known to be doubted. It is true that he was subject to epilepsy, but, as I was told, only after fits of intemperance; yet, as the greater covers the less, the theory propounded would naturally clear him from all responsibility in that matter too. Drant had served as journeyman with his victim, and some quarrel had survived their connexion. Thus the motive of revenge existed. Nor was premeditation wanting. On a former occasion he had waylaid the poor fellow, with the avowed intention of assaulting him. If the neighbours had not forewarned him, this case would have afforded Dr. Bucknill's theory more support than it seems to do now.

I am, Sir, yours &c.,

April, 1878. E. G. W.

CALF VACCINE LYMPH.

Drs. Geo. Wyld and Thomas Wilson send us a specimen of their large lancet-shaped ivory points adapted for the use of calf vaccine lymph without the intervention of a lancet. The advantages claimed for points of this sort are: (1) that they make a scratch instead of a sharp cut, and thus present the best possible surface for receiving the vaccine; (2) that no blood is drawn by the scratching; (3) that the popular fear of the lancet is avoided; and (4) that, the lancet-shaped ivory point being never used for more than one child, no inter-contamination is possible.

SUCCESSFUL CASE OF TRANSFUSION.

To the Editor of THE LANCET.

SIR,—Perhaps a successful case of transfusion at the antipodes may interest your readers.

Mrs. C——, aged thirty-five, lying-in with her seventh child, suffered for the second time from placenta prævia. The first occurred in her third confinement. This time she had been attended by a midwife, and on the 4th November I was summoned. Soon after an immense gush of blood had left her in a most exhausted condition. On examination I found the placenta centrally placed, os uteri the size of a half-crown and not dilatable, and the membranes not ruptured. I immediately plugged and rectured on chloroform, and an hour and a half after my son, Mr. C. Stacpoole, of Dunedin, turned and delivered her of a dead child. The uterus contracted well, and as she lost no blood after delivery we hoped she would rally. I assiduously watched the case, but was disappointed in finding that she could keep down neither nourishment nor stimulants, and twelve hours after delivery we came to the conclusion that transfusion alone would give her a chance of recovery. Her pulse was nearly imperceptible; the palpebral conjunctivæ and lips colourless; the skin cold and pallid; the flesh soft and woolly; the respiration gasping and shallow; she constantly flung her arms about, and felt even on the verge of syncope—in fact, she was to all appearance dying. We determined to follow the plan described by Dr. Beatty. Her husband supplied the blood, and seven ounces were drawn off into a bowl floating in hot water; the blood was stirred briskly during its flow by a glass rod, and afterwards strained through muslin, and much fibrin separated; a few drops of liquor ammoniæ were added. This was done in an outer room. The patient had a plump, smooth arm, and no vein could be traced, but I thought I felt one in the situation of the median basilic. Mr. C. Stacpoole pinched up a portion of skin at the bend of the left elbow, and ran a small bistoury through it, leaving a wide wound, which displayed only a layer of fat. He then carefully dissected where we expected to find the median basilic, and after a little time came to a flat glistening something, which proved to be a small vein, and the only one brought into view during the operation. No flow could be seen through this, and the great difficulty was to separate the anterior coat without transfixing the vein. He first passed a small director under the vein, and then, seizing the anterior coat with a dissecting forceps, he made a small incision with a tenotomy knife above the director. A slight welling of blood obscured the cut, but was immediately controlled. In the meantime the bowl of blood had been kept floating in hot water during this somewhat tedious operation. It was then brought to the bedside, and my son inserted Aveling's silver afferent tube into the vein, and into that the stop-cock with about an inch of the gutta-percha tube. I then held a common glass syringe, containing an ounce, nozzle down, in the blood, and, when filled, reversed it to be sure that no air was in the reservoir. This was inserted into the gutta-percha tube, the stop-cock turned, and the blood slowly injected, and this was repeated until the blood was exhausted, each time of withdrawal taking care to close the stop-cock, and leave the tube filled with blood. The relief to our patient was almost immediate. The lips reddened, the face lost its ghastly hue, the gasping respiration and the dread of syncope ceased, the pulse returned, and within half an hour she turned on her side, and thanked her well-satisfied attendants. From this time she retained both food and stimulants, and up to this day (the 14th) she has improved without drawback.

The case, it seems to me, is interesting if only from the simplicity of the means used. We discarded Aveling's syringe as too complicated for our inexperienced hands, though we found the silver tube and stop-cock certainly most useful; still, if we had not possessed it, a substitute might have been easily found. Another objection to it and the direct method occurred to us: the room in which we operated was very small, and there was no space for the husband; and, again, might he not have fainted?

I remain yours faithfully,
G. C. STACPOOLE, M.D.

Caversham, near Dunedin, New Zealand, Nov. 14th, 1877.

Mr. C. Kroll Laporte.—Our recent notice of the subject applied to the case of persons desiring, or under treatment for, the discontinuance of the abuse of opiates and narcotics. The law relating to the sale of poisons undoubtedly needs to be strengthened and drawn tighter. Whether it may be practicable to control the dispensing of prescriptions not given for the particular case, but produced as a cover for the greed of opiates, is doubtful.

ABDOMINAL BELTS.

To the Editor of THE LANCET.

SIR,—A large number of abdominal belts and supports are advertised, all of which fail in some points more or less; either they ride up over the hips, or the perineal strap is too irritating to be borne (especially in hot weather), or both. I have used a plan for some years, which I have no doubt is known to many others, but which I am anxious should be universally tried, as I find it very successful. The plan is this: To the lower edge of the belt on each side, outside the thigh, is sewn strongly a broad piece of stout elastic, which reaches down to within two or three inches of the top of the stocking; at the end of it is sewn a button, which is pulled down and fastened to a loop from the top of the outside of the stocking, thereby doing away with two abominations in the shape of the perineal strap and ordinary garters.—Yours faithfully,

Kensington, April, 1878. JAMES LATTEY.

H. B.—The notion that "the insane *never* shed tears" is groundless. Lunatics are not commonly as demonstrative, perhaps not as sympathetic, as the average of sane folk; but they feel deeply and intensely, or vindictively. As a matter of fact, some are profuse in tears. Everything depends, with the insane as with the sane, upon the kind and strength of feeling. Some are superficially sensitive, and cry on the slightest provocation; others feel more deeply, and therefore cry less, as we have more than once explained. Tears are not as a rule the concomitants of deep sorrow. It is very rare to find even a woman shed tears at the foot of the scaffold, or when face to face with a crushing calamity. The suggestion that good might be done by suasive measures and direct appeals to the emotional nature in cases of insanity is not new. All wise practitioners who study individual cases adopt the description of "moral treatment" which seems most likely to produce good results. The books abound in cases of successful *personal* treatment. The evil of the prevailing method in lunacy is dealing with the insane in classes instead of individually. In the large asylums it is *impossible* to treat cases except in groups.

"POISON IN THE NURSERY."

To the Editor of THE LANCET.

SIR,—In your issues of the 20th and 27th inst. our attention is called to a letter from Messrs. Evans and Jones, analysts, on the former date, and Mr. Fred. E. Cockell, jun., M.R.C.S., on the latter, under the heading of "Poison in the Nursery," with also your notices thereon, headed "Poisonous Toilet and Nursery Powders." Finding also that notice has been taken of what has been said in your columns by most of the leading daily papers, we would ask you, in fairness to ourselves as the oldest established manufacturing house of the article complained of, to give us space in your next issue to disavow any connexion with such manufacture that appears is occasioning such fatal consequences in its use. For close upon a century we have had the confidence of the wholesale druggists and perfumers of London and the country, by receiving continuously from them their orders for starch powder (pulv. amyl.), and in the No. 1 starch powder supplied by us to them we assert that it is manufactured from wheat only, and carefully prepared by a process that excludes any corrosive acid, caustic alkali, or neutral salt, pure water alone being used to wash and cleanse the starch. Where starch power is made from rice, maize, sago, potato, &c., it is for the most part bleached by chemical agents. There is no doubt that in these days of cheap articles adulterations are effected after the manufacture has passed from the maker's premises; but we with safety say that, obtained from any of the eminent wholesale druggists and perfumers of London or country, our No. 1 wheaten-starch powder will be found not only harmless when applied to the skin, but also when used as a food.

We beg to remain, Sir, your obedient servants,
JOSEPH LESCHER, SON, AND CO.

No. 1 Starch Works, Thomas-street, Whitechapel-road,
London, April 30th, 1878.

HÆMATOMA AURIS.

Mr. Hanmer Dickson protests against the assumption, in works on Psychological Medicine, "that hæmatoma auris is a diagnostic of insanity, in the same way as crepitus is of fracture." We do not remember to have seen the connexion between the particular malady named and mental disease so closely traced. It is a common accompaniment of certain forms of insanity, and not apparently a traumatic effect, as Mr. Hanmer Dickson supposes.

MUSCÆ VOLITANTES.

To the Editor of THE LANCET.

SIR,—"C. F. N., L.R.C.P. Edin." (THE LANCET, April 13th), in explaining the familiar riband-and-medallion-like form of muscæ as images of organic débris lying on the cornea, makes no attempt to reconcile this view with optical science, but founds it solely on certain effects of winking and lachrymation, which my experience at least cannot endorse. Observation seems to me quite to accord with theory in referring them to the tissues close in front of the retina; for some float freely, whirled about as by the surging which movements of the eyeball probably occasion in the vitreous; whilst others are relatively fixed, and recognisable from day to day, though swayed hither and thither, as the delicate membranes of this humour must be; and I note that, after glancing over the field of vision in any direction, the muscæ are seen to proceed momentarily in that direction, and then to reverse their motion. I can always study these phantoms at will by peering through a pinhole in a card; but they have never obtruded themselves disagreeably, except after typhus, and then my eyes did not water.

Permit me to call attention to a distinct variety of muscæ, suggestive of the presence of animalcules in the fluids of the eye, which I become conscious of when gazing steadily at a moderately bright patch of blue sky or homogeneous grey cloud. It consists of numerous minute shining points in unceasing choreic movement, which, though I have never seen "a swarm of fireflies," always bring to mind Tennyson's simile. I first thought them the work of fancy; but, as their character never changes, I have transferred them to the domain of sense. Objectively considered, what are they?

Yours truly,
London, April 17th, 1878. W. M'L.

UNEQUAL LENGTH OF THE LOWER LIMBS.

To the Editor of THE LANCET.

SIR,—In reply to Mr. C. Roberts' letter respecting lower limbs, I last week's LANCET, containing some remarks on "Miles's" letter, he begs to inform him he is not a tailor, as may be seen, that the observations were correctly taken, and so were the conclusions at the time, and that he is not aware the subject was intended or required to be popularised, and therefore the criticism may be considered worthless and made at random.

Yours &c.,
April, 1878. MILE

HYGIENE AND PUBLIC HEALTH.

DR. CORFIELD will commence his lectures on the above subjects on Tuesday next at four P.M. The authorities of University College have done much to give a practical aspect to the instruction in these important subjects. The pupils not only have the advantage of a well-appointed laboratory, but the Parkes' museum enables the professor to illustrate his lectures with a great variety of apparatus. This is as it should be; for hygiene is nothing if not practical.

Dr. Quill, (Island Bridge Barracks, Dublin.)—The text-books in use at the Royal Veterinary College are Professor Williams' "Principles and Practice of Veterinary Surgery" and "Principles and Practice of Veterinary Medicine." On Veterinary Hygiene, the text-book is Mr. George Fleming's "Manual of Veterinary Science and Practice."

WANTED, A DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—Could any of your kind readers help me as to the diagnosis of the following case.

A young lady in her teens; catamenia suppressed for seven months. No disease to be detected; urine healthy; heart healthy; appetite fairly good; is able to take long walks, run up-stairs without breathing becoming short; chest-sounds healthy. Says herself she is perfectly well. The only thing noticeable is the progressive wasting. She is a perfect walking skeleton, one might almost say repulsive.—Yours truly,

April, 1878. PUZZLED.

Anxious.—The Bill will not affect our correspondent. He will be able to put "M.D." after his name &c. as hitherto. In answer to the second question, no legislation will interfere retrospectively with those who have previously used the title, so long as they do not practise medicine or surgery for gain on the strength of it.

ARSENIC OR ERYSIPELAS?

To the Editor of THE LANCET.

SIR,—Is it possible to conceive that arsenical violet-powder may have had something to do with erysipelas after vaccination?—Yours &c.,

Rotherhithe, April 29th, 1878. R. J. S.

ERRATUM.—In the last line of the annotation on the Royal College of Surgeons in our issue of last week, page 619, for "section 25 of the Charter 15th Victoria," read "section 5," &c.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Pavy, London; Mr. Erichsen, London; Mr. Bryant, London; Dr. Thomas, Glasgow; Mr. Le Neve Foster, London; Mr. Harris, Folkestone; Mr. Masterman, Ixworth; Mr. Parsons, Bristol; Dr. Sheaf, Barrow-in-Furness; Mr. R. A. Gibbons, London; Mr. Winterbottom, London; Dr. Bain, Blackwall; Mr. Wilson, London; Mr. Cheesewright, Rawmarsh; Dr. Donnett, Cheltenham; Mr. Morris, Swansea; Dr. Godson, London; Mr. Marchant, Holloway; Mr. Blackett, London; Dr. R. S. Smith, Bristol; Messrs. Jackson and Graham, London; Dr. Cavafy, London; Dr. Nicholls, Chelmsford; Mr. Aspinall, Ipswich, Queensland; Mr. Rawlings, Teignmouth; Captain Marshall Hall, London; Mr. Hemming, London; Dr. Wyckoff, New, New York; Mr. Brown, Northallerton; Dr. Dickson, London; Mr. Flood Page, Sydenham; Dr. Romano, Brazil; Dr. Balfrinie, London; Mr. Jenkins, Stirling; Mr. Young, London; Mr. Deacon, Loughton; Dr. Tatham, Salford; Dr. Redwood; Dr. Medlecott; Mr. Turner; Dr. Edwards, Cardiff; Mr. Bloxam; Captain Mercier; Rev. E. W. Edgell; Mr. Williams, Norwich; Messrs. Lescher and Co.; Mr. Cooper, Manchester; Mr. Sargeant; Dr. Major, Wakefield; Dr. Miller, New Wandsworth; Dr. Laporte, Southport; Mr. Cowell; Dr. Tirard; Mr. Bean, Tavistock; Dr. Taylor; Mr. Garden, Aberdeen; Mr. Coulton; Mr. Simpson; Mr. Joyce; Mr. Roberts; Mr. Mellor; Mr. Clasher, New York; Mr. Clark; Mr. Irving; Dr. Duncan, Shetland; The Trustees of the Martin Memorial; Puzzled; Ebosacus; Miles; E. J. W.; R. J. S.; E. G. W.; A General Practitioner; A. B.; M. D.; L.K. & Q.C.P.I.; P. Q.; R. F.; Medicus; Alpha; H. B.; An Army Medical Officer; Doubly Qualified; Anxious; J. H. H.; M.R.C.S., &c.; F.R.C.S.; A Subscriber to THE LANCET; Dispenser; M. M.; Secretary; &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Greenall, Chorlton; Mr. Cornish, Manchester; Messrs. Gillon and Co., Leith; Mr. Hodgkins, Oxford; Mr. Thorpe, Sheffield; Mr. Godfrey, Northampton; Dr. Crew, Higham Ferrers; Messrs. Cadbury, Birmingham; Messrs. Mottershead and Co., Manchester; Messrs. Smith and Son, Dublin; Dr. Power, London; Dr. Sturges, London; Mr. Brockelbank, London; Mr. Arkle, Morpeth; Messrs. Milward and Co., London; Dr. Armand; Dr. Broadbent; Mr. Lloyd; Dr. Stuart, Wigan; Dr. Hitch, Battle; Mr. Hubert; Mr. Brett, Bridlington; Mr. Wheeler; Dr. Brady, Derby; Dr. Walker, Aldborough; Mr. Pickburn, Kidsgrove; Mr. Bert; Messrs. Hartill and Co.; Mr. Wood; Mr. Shaw, Sheffield; Mr. Gardiner; Dr. Curnie; Medicus, Consett; M. J. S.; Medicus, Oxford; X. Y. Z., London; D. G.; M.D.; P., Bedford; Surgeon, Plymouth; Medicus, Penge; Abernethy; Reflex; M. B., Chesterfield; H. B., Aberystwith; S. S. T.; Alpha; R. L., Leatherhead; J. R. S., Durham; M.R.C.S., New Brighton; A. M., Lymington; L. A. M. B.; A. B.; C. J. S., Tunbridge Wells.

Sunderland Daily Echo, Hastings and St. Leonard's Times, Daily Free Press, Licensed Victuallers' Guardian, Western Morning News, Argus, Macclesfield Courier, Aberdeen Journal, Northern Whig, Spiritualist, &c. have been received.

Medical Diary for the ensuing Week.

Monday, May 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. General Monthly Meeting.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Annual Oration by Dr. Alfred Carpenter, of Croydon. Subject: "Alcoholic Drinks as Diet, as Medicine, and as Poisons." After which the usual Conversazione will be held.

Tuesday, May 7.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. T. Thiselton Dyer, "On some Points in Vegetable Morphology."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be shown:—Ulceration of the Bowel in connexion with Granular Kidney; Renal Calculus of Mixed Carbonate and Phosphate; Two Specimens showing the Spontaneous Disintegration of Calculi; Sections of Tumour from Pectoral Region of a Man aged eight-one The Microscopical Characters found in Tissues affected by Measles; Epithelioma of the Female Lip; Cancerous Ulcer of the Skin, forty three years' duration; Carcinoma of Orbit recurring after fourteen years; French Millstone-maker's Lung; Specimens of Cerebral Aneurisms; Embolism of the Left Inferior Parietal Convolution Specimens showing the Minute Anatomy of Dysdrosis; Parus Cavity in Spinal Cord.

Wednesday, May 8.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
EPIDEMIOLOGICAL SOCIETY.—8 P.M. Dr. Thorne, "On the Origin of Infection."

Thursday, May 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Lord Rayleigh, "On Colour."

Friday, May 10.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M.
ROYAL INSTITUTION.—8 P.M. Weekly Meeting.—9 P.M. Sir Wm. Thomson: "Effects of Stress on Magnetisation of Iron, Nickel, and Cobalt."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. Leggatt, "On a Case of Yellow Fever," with Notes of the Post-mortem Examination by Dr. Greenfield.—Mr. Spencer Watson, "On two Cases of Lupus Exedens." Dr. Buzzard, "On a Case of Double Optic Neuritis, with Obstruction of the Right Brachial Artery."—Mr. Cripps, "On a Case of Gastrotomy for Intestinal Obstruction."

Saturday, May 11.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Professor H. Morley, "On Richard Steele."

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